DOCUMENT RESUME

ED 183 388 SE 030 134

TITLE Selected Supplemental Mathematics Exercises. National Assessment of Educational Progress.
INSTITUTION Education Commission of the States, Denver, Colo. National Assessment of Educational Progress.
PUB DATE Oct 77
NOTE 199p.

EDRS PRICE MF01/PC08 Plus Postage.
DESCRIPTORS Calculation; Definitions; *Educational Assessment; Elementary Secondary Education; Geometry; Graphs; Mathematical Concepts; *Mathematics Education; Measurement; Number Concepts; *Problem Sets; Problem Solving; Statistics; Tables (Data); Test Construction; *Test Items
IDENTIFIERS *National Assessment of Educational Progress

ABSTRACT

The National Assessment of Educational Progress (NAEP) administered the selected supplemental mathematics exercises to 13-year-old students during October and November 1975 and to 17-year-old students during March and April 1976. This assessment represents a specially modified supplement to 1972-73 full-scale mathematics assessment and was designed to determine whether 13- and 17-year-old students can successfully cope with basic computations, operations, simple graphs and charts, symbols, situation (word) problems, etc. Of the 88 exercise parts administered to 13-year-olds, 61 have been released; and of the 83 exercise parts administered to 17-year-old students, 65 have been released. Only the released exercises are presented in this volume. Each released exercise or exercise part is accompanied by a documentation page that identifies the exercise content and objective and its National Assessment identification number. The documentation page also gives the exercise release number and various administrative information. The data table at the bottom of each documentation page or on the following page presents the 1975-76 results for the correct answer to the exercise part shown in this volume. (Author/MK)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED183388

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
T. Pratt
NAEP
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

SELECTED SUPPLEMENTAL MATHEMATICS EXERCISES

October 1977

SE 030 134

FOREWORD

When the U.S. Office of Education was chartered in 1867, one charge to its commissioners was to determine the nation's progress in education. The National Assessment of Educational Progress (NAEP) was initiated a century later to address in a systematic way that charge.

Each year since 1969, National Assessment has gathered information about levels of educational achievement across the country and reported its findings to the nation. NAEP surveys the educational attainments of 9-year-olds, 13-year-olds, 17-year-olds and adults (ages 26-35) in 10 learning areas: art, career and occupational development, citizenship, literature, mathematics, music, reading, science, social studies and writing. Different learning areas are assessed every year, and all areas are periodically reassessed in order to measure change in educational achievement. National Assessment has interviewed and tested more than 630,000 young Americans since 1969.

Learning area assessments evolve from a consensus process. Each assessment is the product of several years of work by a great many educators, scholars and lay persons from all over the nation. Initially, these people design objectives for each subject area, proposing general goals they feel Americans should be achieving in the course of their education. After careful reviews, these objectives are given to exercise (item) writers, whose task it is to create measurement tools appropriate to the objectives.

When the exercises have passed extensive reviews by subject-matter specialists, measurement experts and lay persons, they are administered to

probability samples. The people who comprise those samples are chosen in such a way that the results of their assessment can be generalized to an entire national population. That is, on the basis of the performance of about 2,500 9-year-olds on a given exercise, we can generalize about the probable performance of all 9-year-olds in the nation.

After assessment data have been collected, scored and analyzed, National Assessment publishes reports to disseminate results as widely as possible. Not all exercise results are released for publication. Because NAEP will administer some of the same exercises again in the future to determine whether the performance level of Americans has increased or decreased, it is essential that they not be released in order to preserve the integrity of the study.

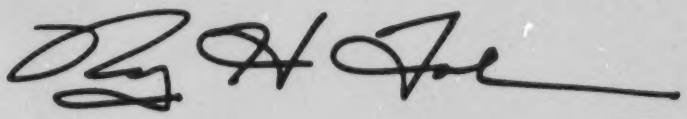
ACKNOWLEDGMENTS

Many people and organizations have made substantial contributions to the 1975-76 assessment of selected mathematics skills. Not the least of these are the state and local school systems and the responding students themselves, without whose cooperation this study would not have been possible.

Particular thanks go to the following organizations and National Assessment departments whose efforts contributed to the success of the study:

- For sampling and administration: Research Triangle Institute, Research Triangle Park, N.C.
- For packaging (of exercises) and scoring: Measurement Research Center, Iowa City, Iowa.
- For development of the study and data analysis: Development, Analysis and Research Department, National Assessment of Educational Progress.
- For data processing: Data Processing Department, National Assessment of Educational Progress.
- For design of and technical advice in preparing this volume: Field Services Department, National Assessment of Educational Progress.

- For final production of this volume: Publications Department, National Assessment of Educational Progress.



Roy H. Forbes
Project Director

INTRODUCTION

The National Assessment of Educational Progress (NAEP) administered the selected supplemental mathematics exercises to 13-year-old students during October and November 1975 and to 17-year-old students[1] during March and April 1976. This assessment represents a specially modified supplement to the 1972-73 full-scale mathematics assessment and was designed to determine whether 13- and 17-year-old students can successfully cope with the basic computational operations, simple graphs and charts, symbols, situation (word) problems, etc. The exercises -- all multiple-choice -- are typical of the kinds of mathematics usually taught in the elementary grades (one through six), although some of the exercises given to 17-year-olds might require some additional sophistication.

Several of the exercises have two or more parts. For purposes of analysis, each part was regarded as an independent source of data and analyzed separately. Of the 88 exercise parts administered to 13-year-olds, 61 have been released; and of the 83 exercise parts administered to 17-year-old students, 65 have been released. Only the released exercises are presented in this volume.

---

[1]The assessment was also administered to 17-year-old drop-outs and early graduates. No data pertaining to these 17-year-olds is given in this volume. Nine-year-old students were not included in the assessment.

Classification of the Exercises

Each exercise part was designed to measure one of four objectives, each representing a broad range of mathematical skills or behaviors. Each exercise was also assigned to one of eight content categories. The objective and content categories are listed below along with the number of released exercises in each objective and content category given at age 13, age 17 and at both ages. Note that the numbers of exercises included in the "Both 13/17" column are also included in the "13" column and the "17" column.

Objective	Ages 13	17	Both 13/17
1. Recognize facts, definitions and symbols	11	9	5
2. Perform mathematical manipulations	18	19	6
3. Understand mathematical concepts and processes	16	15	5
4. Solve mathematical problems	16	22	4
TOTALS	61	65	20

Content Category	Ages 13	17	Both 13/17
A. Number and numeration concepts	6	7	4
B. Properties of numbers and operations	9	9	6
C. Arithmetic computation	13	9	2
E. Measurement and estimation	12	10	2
F. Mathematical sentences	7	8	3
G. Geometry	10	9	2
H. Statistics and graphs	4	7	1
I. Personal and consumer mathematics	0	6	0
TOTALS	61	65	20

The objectives used in this assessment represent four of the five objectives used in the 1972-73 mathematics assessment. The content categories represent a modified subset of those used in the 1972-73 assessment, with some content categories being eliminated and others collapsed to form the set used in the present (1975-76) assessment.

Organization of the Volume

The released exercises are reproduced in this volume as they appeared to the respondents except that the correct answer is indicated. The exercises are arranged in the sequence of their content classifications. In those cases where the parts of a multi-part exercise have been assigned to different content categories, the parts appear separately. Within each content category, the exercise or exercise parts are arranged according to the objective classifications to the extent possible. If the parts of an exercise have different objective classifications, they are ordered according to the classification of the first part. In some cases, only one part of an exercise is released and another part is unreleased. Only the released part is reproduced in this volume.

Each released exercise or exercise part is accompanied by a documentation page that identifies the exercise content and objective and its National Assessment identification number (NAEP #). The documentation page also gives the exercise release number and various administration information. It is worthwhile to point out here that all the exercises in this set are multiple-choice, were machine scored and were administered to groups with instructions and stems being read by a paced tape recording. The exercise answer choices were read by a paced tape except where such reading would cue the correct response.

Also shown are the age levels to which the exercise was administered and the modal grade level for each age, grade 8 for age 13 and grade 11 for age 17. Timing information is shown at the relevant age level(s) for each exercise.

Data Tables

The data table at the bottom of each documentation page or on the page following the documentation page presents the 1975-76 results for the correct answer to the exercise part shown in this volume. The data table shown on the example documentation page is used to explain how to read the data table for each exercise.

The row headings down the left margin are Age (13, 17) and Grade (8, 11). Age refers to all 13- and 17-year-old students regardless of their grade; grade refers to the 13-year-olds in the 8th grade and 17-year-olds in the 11th grade.

The nation and the following reporting categories comprise the column headings across the top:

Region:	Southeast (SE), West, Central (Cent), Northeast (NE)
Sex:	Male, Female (Fem)
Community Size (CS):	Big City (BC), Fringes Around Big Cities (FABC), Medium City (MCTY), Smaller Places (SMPL)

For each of the reporting categories within each age and modal grade level, the following data are given:

1. The percentages who responded correctly to the exercise. Referring to the example documentation page, the percentage for all 13-year-old students who chose "5.0" as the greatest number for part A of the example exercise was 81.6%, while the percentage for 13-year-olds in the eighth grade was 85.0%. Note that the national percentages (p-values) for the relevant ages and modal grades are also given in the documentation above the data tables.

2. The standard errors for the percentages described in (1) above. The standard error is an estimate of the sampling variability we would expect if percentages like those described were to be obtained from different samples drawn in the same manner from the same population. Standard errors can be used to define confidence intervals. For example, we expect the true population percentage to be in the interval between two standard errors above and below the observed percentage in 95% of the samples. In the examples used in (1) above, the standard errors for the percentages are 1.2 and 1.4, respectively. Therefore, there is a 95% probability that the true percentage correct for all 13-year-old students is between 79.2% and 84.0% [81.6 - 2 (1.2)] and [81.6 + 2(1.2)]. Likewise, there is a 95% probability that the true percentage correct for 13-year-olds in the eighth grade is between 82.2% and 87.8% [85.0 - 2(1.4)] and [85.0 + 2(1.4)].

SAMPLE EXERCISE PAGE

A. Which number is the GREATEST?

- ⬭ 0.5
- ⬬ 5.0
- ⬭ 0.005
- ⬭ 0.05

- ⬭ I don't know.

B. Which number is the SMALLEST?

- ⬭ 2.002
- ⬭ 0.202
- ⬭ 0.22
- ⬬ 0.022

- ⬭ I don't know.

SAMPLE DOCUMENTATION PAGE

Release #: R002A
R002B

NAEP #: A10002-23

Content: A. Number and numeration concepts

Behavioral objective: 1. Recognize facts, definitions, symbols

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr 8	13	17	Gr 11
Package-Exercise:	-	02-08	02-08	-
National P-value:				
R002A	85.0	81.6	93.3	94.7
R002B	55.5	50.0	75.9	78.4

Timing: (in seconds)

Part A.	Stimulus:	6	5
	Response:	23	34
	Total:	29	39
Part B.	Stimulus:	6	5
	Response:	26	35
	Total:	32	40
Exercise Total:		61	79

SAMPLE DOCUMENTATION PAGE

R002A M-A10002-23

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	SABC	MCTY	SMSA
PART A											
AGE 13 P	81.6	73.1	82.0	85.0	85.4	84.6	78.5	81.6	83.4	76.5	82.2
AGE 13 SE	1.2	3.9	2.2	1.4	1.6	1.3	1.7	3.2	3.4	4.8	1.3
GRADE 8 P	85.0	77.9	85.3	87.5	87.7	88.0	82.1	85.3	85.7	82.0	85.3
GRADE 8 SE	1.4	4.3	2.8	1.9	1.9	1.4	1.7	3.3	4.0	5.8	1.4
AGE 17 P	93.3	91.7	92.6	95.8	92.6	95.2	91.5	88.9	95.2	90.7	94.9
AGE 17 SE	0.6	0.9	1.5	0.8	1.0	0.6	0.8	1.9	1.1	1.4	0.4
GRADE 11 P	94.7	92.3	94.1	97.1	94.4	96.6	92.9	91.0	95.9	93.7	95.7
GRADE 11 SE	0.5	0.9	1.3	0.6	1.2	0.4	0.8	1.9	1.3	1.2	0.5
PART B											
AGE 13 P	50.0	37.7	45.3	59.5	56.9	54.5	45.4	49.7	55.1	46.3	49.6
AGE 13 SE	1.6	3.3	3.3	2.2	2.7	1.8	2.1	3.7	2.3	5.9	2.1
GRADE 8 P	55.5	43.7	50.4	63.4	61.6	61.1	50.1	54.0	60.0	50.4	55.6
GRADE 8 SE	1.5	3.5	3.7	2.0	2.3	1.8	1.9	3.3	2.5	7.4	2.2
AGE 17 P	75.9	66.8	77.6	81.1	75.6	78.7	73.2	68.9	81.3	73.8	77.2
AGE 17 SE	1.2	2.2	2.8	2.1	1.9	1.2	1.4	4.1	1.8	2.3	1.3
GRADE 11 P	78.4	70.9	80.3	83.2	76.4	81.5	75.5	72.7	83.4	76.0	79.1
GRADE 11 SE	1.1	1.3	2.4	1.7	2.7	1.1	1.4	3.9	1.8	2.9	1.3

Definitions of Reporting Categories

Age

Thirteen-year-old students. All persons enrolled in public or private schools and born during the calendar year 1962.

Seventeen-year-old students. All persons enrolled in public or private schools and born between October 1, 1958, and September 30, 1959.

Grade

Eight. The 71% of 13-year-old students defined above who are enrolled in the eighth grade.

Eleven. The 74% of 17-year-old students defined above who are enrolled in the eleventh grade.

Region

Northeast, Southeast, Central, West as indicated by the following map.

Sex

Male and female.

Community Size

Big city. Those attending schools within the city limits of cities with a population over 200,000.

Fringes around big cities. Those attending schools within metropolitan areas served by cities with a population greater than 200,000 but outside the city limits.

Medium city. Those attending schools in cities having a population between 25,000 and 200,000 not classified in the fringes-around-big-cities category.

Smaller places. Those attending schools in communities having a population less than 25,000 not classified in the fringes-around-big-cities category.

A. Which number is the GREATEST?

- ⬭ 0.5
- ▬ 5.0
- ⬭ 0.005
- ⬭ 0.05

- ⬭ I don't know.

B. Which number is the SMALLEST?

- ⬭ 2.002
- ⬭ 0.202
- ⬭ 0.22
- ▬ 0.022

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R002A
R002B

NAEP #: A10002-23

Content: A. Number and numeration concepts

Behavioral objective: 1. Recognize facts, definitions, symbols

Exer & Scor Type: Multiple choice
Mechanical-optical scanner
Admin Mode & Instr Meth: Group
Read by paced tape recording
Stem Admin Mode: Read by paced tape recording
Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	02-08	02-08	-
National P-value:				
R002A	85.0	81.6	93.3	94.7
R002B	55.5	50.0	75.9	78.4

Timing: (in seconds)

Part A.	Stimulus:	6	5
	Response:	23	34
	Total:	29	39
Part B.	Stimulus:	6	5
	Response:	26	35
	Total:	32	40
Exercise Total:		61	79

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	81.6	73.1	82.0	85.0	85.4	84.6	78.5	81.6	83.4	76.5	82.2
AGE 13 SE	1.2	3.9	2.2	1.4	1.6	1.3	1.7	3.2	3.4	4.8	1.3
GRADE 8 P	85.0	77.9	85.3	87.5	87.7	88.0	82.1	85.3	85.7	82.0	85.3
GRADE 8 SE	1.4	4.3	2.8	1.9	1.9	1.4	1.7	3.3	4.0	5.8	1.4
AGE 17 P	93.3	91.7	92.6	95.8	92.6	95.2	91.5	88.9	95.2	90.7	94.9
AGE 17 SE	0.6	0.9	1.5	0.8	1.0	0.6	0.8	1.9	1.1	1.4	0.4
GRADE 11 P	94.7	92.3	94.1	97.1	94.4	96.6	92.9	91.0	95.9	93.7	95.7
GRADE 11 SE	0.5	0.9	1.3	0.6	1.2	0.4	0.8	1.9	1.3	1.2	0.5
PART B											
AGE 13 P	50.0	37.7	45.3	59.5	56.9	54.5	45.4	49.7	55.1	46.3	49.6
AGE 13 SE	1.6	3.3	3.3	2.2	2.7	1.8	2.1	3.7	2.3	5.9	2.1
GRADE 8 P	55.5	43.7	50.4	63.4	61.6	61.1	50.1	54.0	60.0	50.4	55.6
GRADE 8 SE	1.5	3.5	3.7	2.0	2.3	1.8	1.9	3.3	2.5	7.4	2.2
AGE 17 P	75.9	66.8	77.6	81.1	75.6	78.7	73.2	68.9	81.3	73.8	77.2
AGE 17 SE	1.2	2.2	2.8	2.1	1.9	1.2	1.4	4.1	1.8	2.3	1.3
GRADE 11 P	78.4	70.9	80.3	83.2	76.4	81.5	75.5	72.7	83.4	76.0	79.1
GRADE 11 SE	1.1	1.3	2.4	1.7	2.7	1.1	1.4	3.9	1.8	2.9	1.3

$\frac{1}{5}$ is equivalent to what percent?

- ⬭ $\frac{1}{5}$ %
- ⬭ 5 %
- ⬭ 15 %
- ⬬ 20 %
- ⬭ I don't know.

19

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R003

NAEP #: A10003-3

Content: A. Number and numeration concepts

Behavioral objective: 1. Recognize facts, definitions, symbols

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr 11
Age/Modal Grade:	01-27	-
Package-Exercise:		
National P-value:		
R003	63.0	66.2

Timing: (in seconds)

Stimulus:	5
Response:	20
Exercise Total:	25

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	63.0	56.0	61.0	65.3	68.1	66.3	59.9	57.6	64.1	63.0	64.2
AGE 17 SE	1.3	2.3	2.9	1.9	2.8	1.6	1.7	3.9	4.3	4.1	1.3
GRADE 11 P	66.2	58.6	63.8	70.3	70.5	71.4	61.6	60.8	68.1	65.4	67.3
GRADE 11 SE	1.2	2.6	2.6	1.5	2.8	1.8	1.6	4.4	3.8	3.6	1.3

Which fraction is the GREATEST?

- ○ $\frac{2}{3}$
- ○ $\frac{3}{4}$
- ● $\frac{4}{5}$
- ○ $\frac{5}{8}$

○ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R004

NAEP #: A20001-23

Content: A. Number and numeration concepts

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	02-26	02-26	-
National P-value:				
R004	27.4	23.2	43.1	46.0

Timing: (in seconds)

	13	17
Stimulus:	8	6
Response:	99	112
Exercise Total:	107	118

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	23.2	17.3	18.5	27.6	29.2	29.1	17.1	23.4	27.0	25.3	21.6
AGE 13 SE	1.2	2.7	2.0	2.5	2.6	1.5	1.5	3.1	2.5	4.8	1.4
GRADE 8 P	27.4	21.8	23.4	30.9	31.9	35.6	19.6	27.4	30.7	30.9	25.6
GRADE 8 SE	1.2	3.1	2.2	2.3	2.0	1.6	1.5	3.5	2.8	4.7	1.4
AGE 17 P	43.1	32.7	47.1	48.3	41.3	51.8	34.5	37.6	49.4	36.4	44.7
AGE 17 SE	1.4	2.2	3.5	2.1	2.5	1.9	1.2	5.6	3.3	2.2	1.4
GRADE 11 P	46.0	36.0	50.8	51.5	42.3	55.8	36.9	40.7	50.8	38.3	48.2
GRADE 11 SE	1.3	1.9	3.2	1.9	2.8	1.8	1.3	5.7	3.4	2.5	1.5

Which one of the following expresses $10,347 to the nearest one hundred dollars?

- ○ $10,000
- ● $10,300
- ○ $10,350
- ○ $10,400

- ○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R006

NAEP #: A20003-2

Content: A. Number and numeration concepts

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-22
National P-value:		
R006	67.0	62.9

Timing: (in seconds)

Stimulus:	9
Response:	33
Exercise Total:	42

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPI
AGE 13 P	62.9	56.5	61.0	67.5	66.2	65.3	60.6	62.0	66.1	65.3	61.5
AGE 13 SE	1.3	2.3	3.2	2.4	2.6	1.5	1.4	4.0	3.1	3.9	1.8
GRADE 8 P	67.0	60.8	64.5	71.9	69.5	70.3	64.0	66.5	68.4	70.4	65.5
GRADE 8 SE	1.3	2.5	3.7	2.6	1.9	1.5	1.5	3.8	3.2	3.8	1.9

A. There are 13 boys and 15 girls in a group. What fractional part of the GROUP is boys?

- ● $\frac{13}{28}$
- ○ $\frac{15}{28}$
- ○ $\frac{13}{15}$
- ○ $\frac{28}{13}$

- ○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R007A

NAEP #: A3C301-3

Content: A. Number and numeration concepts

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type:	Multiple choice Mechanical-optical scanner
Admin Mode & Instr Meth:	Group Read by paced tape recording
Stem Admin Mode:	Read by paced tape recording
Foils Admin Mode:	Read by respondent

	17 02-18	Gr11 -
Age/Modal Grade:		
Package-Exercise:		
National P-value:		
R007A	54.3	56.9

Timing: (in seconds)

Stimulus:	10
Response:	26
Exercise Total:	36

NOTE: Part R007B is located under Content C: Arithmetic computation.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	54.3	50.4	54.3	55.3	56.1	52.5	56.0	55.5	56.0	56.4	52.7
AGE 17 SE	1.1	2.8	2.4	1.7	1.9	1.5	1.3	3.3	1.5	2.9	1.6
GRADE 11 P	56.9	53.0	57.7	57.5	58.3	55.0	58.6	59.7	58.3	59.0	54.9
GRADE 11 SE	1.2	3.2	2.8	1.7	2.0	1.7	1.5	3.4	1.7	3.4	2.0

If n is an odd number, what can you say about n + 1?

- ⬭ It is always odd.
- ⬬ It is always even.
- ⬭ It is even or odd depending upon what n is.

- ⬭ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

M-A30001-2,3,4

Release #: R008

NAEP #: A30001-23

Content: A. Number and numeration concepts

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	02-18	02-17	-
National P-value:				
R008	53.0	45.7	68.8	72.8

Timing: (in seconds)

Stimulus:	13	11
Response:	38	31
Exercise Total:	51	42

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	45.7	36.5	43.0	52.0	50.9	45.8	45.6	49.3	55.6	45.0	42.3
AGE 13 SE	1.6	3.1	3.4	2.9	2.6	1.7	2.1	3.5	2.8	5.6	1.8
GRADE 8 P	53.0	45.7	49.3	57.5	57.9	53.1	52.9	56.7	60.8	56.5	48.9
GRADE 8 SE	1.4	2.7	3.0	3.3	2.4	1.7	2.2	3.1	3.5	5.2	1.8
AGE 17 P	68.8	59.8	67.7	75.0	70.3	69.3	68.4	63.2	74.2	66.3	69.7
AGE 17 SE	1.4	3.0	3.5	1.7	2.8	1.7	1.5	4.4	3.0	3.1	1.7
GRADE 11 P	72.8	63.5	73.4	78.0	73.4	74.4	71.3	66.2	76.5	71.9	73.8
GRADE 11 SE	1.3	2.6	3.2	1.4	2.9	1.6	1.4	4.1	2.8	3.0	1.6

Which one of the following is the sum of three hundreds, eight tens, and four ones?

- ○ 15
- ● 384
- ○ 300,804

- ○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R011

NAEP #: A30004-2

Content: A. Number and numeration concepts

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-07
National P-value:		
R011	92.6	90.9

Timing: (in seconds)

Stimulus:	10
Response:	37
Exercise Total:	47

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	90.9	88.4	89.3	93.1	92.6	90.3	91.4	89.7	94.0	91.6	90.1
AGE 13 SE	0.5	1.1	1.0	0.6	1.0	0.6	0.6	1.3	0.8	1.1	0.8
GRADE 8 P	92.6	90.4	91.0	94.2	94.1	92.4	92.8	92.9	95.0	93.5	91.4
GRADE 8 SE	0.5	1.4	1.1	0.5	0.8	0.6	0.6	1.5	0.7	1.1	0.8

B. Suppose $\frac{x}{y}$ represents a number. If the values of x and y are each doubled, the new number is

- ⬭ $\frac{1}{2}$ as large as $\frac{x}{y}$
- ⬬ equal to $\frac{x}{y}$
- ⬭ double $\frac{x}{y}$
- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R019B

NAEP #: B3A401-3

Content: A. Number and numeration concepts

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type:	Multiple choice Mechanical-optical scanner	
Admin Mode & Instr Meth:	Group Read by paced tape recording	
Stem Admin Mode:	Read by paced tape recording	
Foils Admin Mode:	Read by paced tape recording	
Age/Modal Grade:	17	Gr11
Package-Exercise:	01-16	-
National P-value:		
R019B	31.9	33.1

Timing: (in seconds)

Stimulus:	17
Response:	36
Exercise Total:	53

NOTE: Part R019A is located under Content B: Properties of numbers and operations.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART B											
AGE 17 P	31.9	26.2	28.8	33.2	37.9	34.3	29.5	30.6	34.6	31.4	31.4
AGE 17 SE	1.2	1.3	2.4	2.4	2.8	1.5	1.3	3.5	2.6	3.4	1.3
GRADE 11 P	33.1	27.0	29.9	35.9	38.4	37.6	29.1	32.3	35.6	28.3	33.8
GRADE 11 SE	1.2	1.7	2.4	2.4	2.7	1.6	1.4	4.3	3.3	2.7	1.4

Which multiplication sentence below is an inverse of 48 ÷ 6 = 8?

- ⬭ 48 × 8 = 384
- ⬬ 6 × 8 = 48
- ⬭ 6 × 48 = 288
- ⬭ 6 × 6 = 36

- ⬭ I don't know.

33

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R014

NAEP #: B10002-2

Content: B. Properties of numbers and operations

Behavioral objective: 1. Recognize facts, definitions, symbols

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-14
National P-value:		
R014	88.4	85.9

Timing: (in seconds)

Stimulus:	11
Response:	20
Exercise Total:	31

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	85.9	83.1	87.3	85.9	87.0	82.8	89.1	83.5	88.0	88.3	85.5
AGE 13 SE	0.8	2.0	1.1	2.2	1.0	1.1	1.0	2.9	1.6	1.6	1.0
GRADE 8 P	88.4	86.4	87.5	89.2	89.9	86.2	90.4	86.7	89.7	90.9	87.9
GRADE 8 SE	0.8	2.6	0.8	1.4	1.5	1.0	1.2	1.6	1.5	2.2	1.2

If a number other than zero is divided by itself, what is the result?

- ⬭ -1
- ⬭ 0
- ⬬ 1
- ⬭ 2
- ⬭ 10

⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R015

NAEP #: B10003-3

Content: B. Properties of numbers and operations

Behavioral objective: 1. Recognize facts, definitions, symbols

Exer & Scor Type:	Multiple choice Mechanical-optical scanner
Admin Mode & Instr Meth:	Group Read by paced tape recording
Stem Admin Mode:	Read by paced tape recording
Foils Admin Mode:	Read by respondent

	17 01-07	Gr 11 -
Age/Modal Grade:		
Package-Exercise:		
National P-value:		
R015	75.4	78.5

Timing: (in seconds)

Stimulus:	7
Response:	13
Exercise Total:	20

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	75.4	73.2	73.2	76.7	77.8	75.0	75.7	72.6	77.8	75.9	75.2
AGE 17 SE	0.9	1.4	2.3	1.7	1.5	1.0	1.2	3.0	2.1	3.1	1.1
GRADE 11 P	78.5	76.1	77.0	80.8	79.7	78.9	78.2	74.8	82.0	78.9	78.4
GRADE 11 SE	1.0	1.5	2.7	1.8	1.7	1.3	1.3	3.2	2.9	2.8	1.2

A. (-5) + (-9) =

- -14
- - 4
- + 4
- +14

- I don't know.

B. (-2) X (-3) =

- -6
- -5
- +5
- +6

- I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

M-B20001-2,3,4

Release #: R016A
R016B

NAEP #: B20001-23

Content: B. Properties of numbers and operations

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	01-26	01-26	-
National P-value:				
R016A	74.3	70.7	77.5	79.2
R016B	37.4	31.1	66.5	69.4

Timing: (in seconds)

Part A.	Stimulus:	10	10
	Response:	11	11
	Total:	21	21
Part B.	Stimulus:	10	9
	Response:	10	10
	Total:	20	19
Exercise Total:		41	40

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	70.7	67.4	69.2	72.8	73.2	70.7	70.7	70.0	70.3	72.1	70.6
AGE 13 SE	0.9	1.4	1.9	1.9	2.0	1.4	0.9	3.0	2.7	2.1	1.3
GRADE 8 P	74.3	70.5	72.5	77.3	76.0	74.5	74.1	76.1	73.2	75.6	73.7
GRADE 8 SE	1.1	1.9	2.3	2.0	2.7	1.7	1.1	2.9	3.0	2.8	1.6
AGE 17 P	77.5	72.4	78.7	79.9	77.7	78.0	77.0	74.5	77.9	74.3	79.0
AGE 17 SE	0.8	0.9	1.7	1.6	1.6	1.1	1.0	2.1	1.8	2.9	1.0
GRADE 11 P	79.2	75.2	80.4	82.2	78.0	80.9	77.7	76.7	80.5	73.6	81.0
GRADE 11 SE	0.8	1.1	1.6	1.4	1.8	1.1	1.1	2.4	1.9	2.8	0.7
PART B											
AGE 13 P	31.1	26.6	34.1	29.2	33.9	29.6	32.5	35.2	37.8	32.0	27.6
AGE 13 SE	1.3	2.4	2.9	2.4	2.1	1.3	1.8	3.8	4.5	3.6	1.5
GRADE 8 P	37.4	31.7	42.3	36.3	38.7	36.2	38.5	42.0	43.0	37.5	34.2
GRADE 8 SE	1.6	3.1	3.7	3.0	2.5	1.5	2.3	4.8	5.2	4.7	1.9
AGE 17 P	66.5	62.0	66.8	64.4	71.7	66.7	66.3	67.8	71.2	66.1	64.6
AGE 17 SE	1.1	2.1	2.5	2.2	2.0	1.3	1.4	2.8	3.1	3.4	1.2
GRADE 11 P	69.4	64.7	70.2	68.5	73.4	70.7	68.3	70.3	74.2	67.3	68.2
GRADE 11 SE	1.2	2.1	2.9	2.3	2.1	1.4	1.6	3.2	3.3	3.2	1.5

What number is 1000 more than 3425?

- ⬭ 3425
- ⬭ 4325
- ⬬ 4425
- ⬭ 3525

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R017

NAEP #: B20002-23

Content: B. Properties of numbers and operations

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	01-01	01-01	-
National P-value:				
R017	88.3	84.8	88.7	90.5

Timing: (in seconds)

Stimulus:	8	7
Response:	14	13
Exercise Total:	22	20

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	84.8	78.4	82.8	87.2	90.3	84.8	84.8	83.6	87.3	84.8	84.4
AGE 13 SE	0.9	1.9	1.8	1.2	1.6	0.9	1.1	2.2	1.8	2.9	1.1
GRADE 8 P	88.3	82.6	86.1	89.6	93.3	89.0	87.6	87.3	90.8	88.7	87.6
GRADE 8 SE	0.9	2.3	1.7	1.4	1.3	0.9	1.2	1.7	1.8	2.1	1.2
AGE 17 P	88.7	87.5	87.6	89.2	90.4	89.1	88.4	87.8	88.5	85.6	89.9
AGE 17 SE	0.7	1.9	1.8	0.8	0.8	0.9	0.9	1.8	2.2	2.3	0.6
GRADE 11 P	90.5	89.0	89.9	91.0	91.9	91.6	89.6	90.8	91.3	86.9	91.2
GRADE 11 SE	0.5	1.8	0.9	0.7	0.9	0.8	0.8	1.3	1.2	2.1	0.6

Which one of the following mathematical sentences is FALSE?

- ⬭ 5 + 0 = 5
- ⬬ 5 × 0 = 5
- ⬭ 5 ÷ 1 = 5
- ⬭ 5 × 1 = 5

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R018

NAEP #: B20003-2

Content: B. Properties of numbers and operations

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-01
National P-value:		
R018	96.5	93.4

Timing: (in seconds)

Stimulus:	6
Response:	24
Exercise Total:	30

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	93.4	92.3	91.5	95.5	94.3	92.6	94.2	91.1	96.5	94.5	93.0
AGE 13 SE	0.7	1.8	1.8	1.3	0.7	0.8	1.1	1.9	0.7	1.2	1.1
GRADE 8 P	96.5	96.4	95.3	97.1	97.0	95.9	97.0	94.7	97.0	95.9	96.9
GRADE 8 SE	0.5	1.0	1.1	0.9	0.5	0.7	0.6	1.8	1.0	1.1	0.5

A. If x and y are both negative numbers, which one of the following must be a negative number?

- ● x + y
- ○ x - y
- ○ xy
- ○ $\frac{x}{y}$
- ○ I don't know.

M-B3A401-3,4

14

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R019A

NAEP #: B3A401-3

Content: B. Properties of numbers and operations

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

	17	Gr 11
Age/Modal Grade:	01-16	-
Package-Exercise:		
National P-value:		
R019A	51.0	53.8

Timing: (in seconds)

Stimulus:	15
Response:	31
Exercise Total:	46

NOTE: Part R019B is located under Content A: Number and numeration concepts.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	51.0	47.0	51.3	53.1	51.4	52.0	50.0	48.8	54.2	50.4	50.7
AGE 17 SE	1.2	2.0	2.2	2.9	2.4	1.6	1.6	3.6	2.9	3.4	1.3
GRADE 11 P	53.8	50.0	54.7	56.6	53.0	55.8	52.1	53.7	57.6	50.2	53.6
GRADE 11 SE	1.2	1.7	2.1	3.2	2.2	1.5	1.7	3.9	3.3	3.4	1.4

$$\begin{array}{r} 315 \\ -179 \\ \hline 136 \end{array}$$

What two numbers should you add to check the above subtraction?

- Add 136 to 179
- Add 136 to 315
- Add 179 to 315

- I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO

Release #: R020

NAEP #: B30001-23

Content: B. Properties of numbers and operations

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	01-03	01-03	-
National P-value:				
R020	83.7	78.0	90.3	92.3

Timing: (in seconds)

Stimulus:	8	6
Response:	18	19
Exercise Total:	26	25

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	78.0	73.9	74.2	80.4	83.4	74.8	81.2	77.6	80.5	81.1	76.5
AGE 13 SE	1.0	1.2	2.4	2.0	1.8	1.3	1.1	2.8	1.6	2.7	1.3
GRADE 8 P	83.7	79.7	79.4	86.5	87.7	81.2	85.9	83.4	84.9	84.6	83.0
GRADE 8 SE	0.9	1.5	2.4	1.2	1.4	1.2	1.1	2.6	1.9	2.6	1.1
AGE 17 P	90.3	89.5	88.3	91.3	92.0	88.4	92.2	87.1	90.0	92.3	90.8
AGE 17 SE	0.7	1.5	1.6	1.2	1.1	0.8	0.8	2.1	2.0	1.8	0.8
GRADE 11 P	92.3	91.6	90.6	93.3	93.6	91.2	93.3	89.6	91.9	93.7	92.8
GRADE 11 SE	0.7	1.4	1.6	1.1	1.2	0.9	0.7	1.8	2.2	1.4	0.7

$3472 \div 7 = 496$

To check the above division, what should you do?

- Multiply 496 by 7
- Multiply 3472 by 7
- Divide 496 by 7
- Divide 496 by 3472

- I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

4-B30002-1,2,3,4

Release #: R021

NAEP #: B30002-23

Content: B. Properties of numbers and operations

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	01-25	01-25	-
National P-value:				
R021	87.9	82.9	91.5	93.1

Timing: (in seconds)

Stimulus:	20	18
Response:	32	29
Exercise Total:	52	47

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	82.9	78.7	82.7	86.3	83.5	80.4	85.4	78.4	86.8	86.2	82.0
AGE 13 SE	0.9	1.9	1.8	1.1	2.3	1.1	1.1	2.8	2.4	3.0	1.1
GRADE 8 P	87.9	85.7	87.8	90.8	87.2	86.2	89.4	83.4	88.9	91.6	87.7
GRADE 8 SE	0.8	0.9	1.9	1.1	2.0	1.0	1.0	2.7	2.6	2.2	1.0
AGE 17 P	91.5	87.6	91.4	92.9	93.1	89.7	93.2	87.4	90.0	91.5	93.1
AGE 17 SE	0.7	1.6	1.6	0.9	1.4	1.0	0.7	2.5	1.4	2.4	0.7
GRADE 11 P	93.1	90.3	92.7	94.9	93.8	92.0	94.1	89.7	92.1	91.2	94.9
GRADE 11 SE	0.7	1.3	1.8	0.9	1.7	1.2	0.8	3.0	1.4	2.4	0.6

The fraction $\frac{6}{4}$ is between

- ⬭ 0 and 1
- ⬬ 1 and 2
- ⬭ 2 and 4
- ⬭ 4 and 6

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

M-B40002-2.3.4

Release #: R023

NAEP #: B40002-23

Content: B. Properties of numbers and operations

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording
Foils Admin Mode: Read by respondent

	Gr8	13	17	Gr11
Age/Modal Grade:	-	01-14	01-14	-
Package-Exercise:				
National P-value:				
R023	54.0	46.0	72.1	76.1

Timing: (in seconds)

Stimulus:	8	8
Response:	23	22
Exercise Total:	31	30

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	46.0	32.6	45.9	52.6	51.6	46.5	45.4	45.2	51.8	48.9	43.6
AGE 13 SE	1.7	3.6	3.7	2.9	2.9	2.2	1.8	5.1	3.7	6.6	2.0
GRADE 8 P	54.0	40.5	55.2	60.8	57.2	56.4	51.8	53.8	58.7	58.0	51.2
GRADE 8 SE	1.6	3.3	3.8	2.4	2.8	2.0	1.8	5.1	3.4	6.0	2.0
AGE 17 P	72.1	64.5	71.8	75.7	74.5	73.3	70.9	62.4	74.0	71.4	74.3
AGE 17 SE	1.2	3.2	2.3	1.7	2.2	1.4	1.4	3.7	3.0	3.9	1.2
GRADE 11 P	76.1	67.9	77.7	80.1	76.6	78.9	73.6	67.3	78.5	75.5	77.9
GRADE 11 SE	1.2	3.0	2.6	1.6	2.0	1.5	1.4	4.1	2.6	3.2	1.4

Let a * b = a(a + b), then

2 * 3 =

- ○ 7
- ● 10
- ○ 12
- ○ 1500

- ○ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

M-B40003-3,4

Release #: R024

NAEP #: B40003-3

Content: B. Properties of numbers and operations

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr11
Age/Modal Grade:	02-06	-
Package-Exercise:		
National P-value:		
R024	58.5	62.4

Timing: (in seconds)

Stimulus:	13
Response:	33
Exercise Total:	46

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	58.5	51.2	59.6	63.7	57.4	56.9	60.1	56.5	65.6	58.4	56.9
AGE 17 SE	1.3	2.4	3.3	2.0	2.4	1.7	1.4	4.8	2.4	2.3	1.1
GRADE 11 P	62.4	54.6	63.7	66.4	62.6	61.5	63.3	60.2	69.1	63.6	60.6
GRADE 11 SE	1.3	1.5	3.6	2.0	2.4	1.7	1.5	4.6	3.1	2.4	1.1

B. Let the symbol * mean "subtract the sum of two numbers from their product." For example:

$$2 * 3 = (2 \times 3) - (2 + 3)$$

Using this definition,

$$4 * 5 =$$

- ⬭ -11
- ⬭ 1
- ⬬ 11
- ⬭ 24
- ⬭ 29

⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

M-F3B301-2

Release #: R066B

NAEP #: F3B301-2

Content: B. Properties of numbers and operations

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-07
National P-value:		
R066B	51.9	46.5

Timing: (in seconds)

Stimulus:	27
Response:	35
Exercise Total:	62

NOTE: Part R066A is located under Content F: Mathematical sentences.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPI
PART B											
AGE 13 P	46.5	40.2	43.7	49.3	52.7	45.0	48.1	50.2	52.6	44.2	44.4
AGE 13 SE	1.5	3.4	3.8	2.4	1.9	1.9	1.9	4.2	3.7	4.8	1.8
GRADE 8 P	51.9	45.6	48.7	54.4	57.3	51.1	52.6	54.8	56.6	54.6	49.1
GRADE 8 SE	1.5	3.5	3.0	3.1	2.5	1.8	2.0	3.6	4.5	4.3	2.1

A. 3 + 0 =

- ⬭ 0
- ⬭ 1
- ▬ 3
- ⬭ 30

⬭ I don't know.

B. 3 × 0 =

- ▬ 0
- ⬭ 1
- ⬭ 3
- ⬭ 30

⬭ I don't know.

C. 3 - 0 =

- ⬭ 0
- ⬭ 1
- ▬ 3
- ⬭ 30

⬭ I don't know.

41

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

M-C10001-1.2

Release #: R025A
R025B
R025C

NAEP #: C10001-2

Content: C. Arithmetic computation

Behavioral objective: 1. Recognize facts, definitions, symbols

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-33
National P-value:		
R025A	98.2	97.2
R025B	97.6	96.2
R025C	93.6	91.5

Timing: (in seconds)

Part A.	Stimulus:	9
	Response:	6
	Total:	15
Part B.	Stimulus:	9
	Response:	6
	Total:	15
Part C.	Stimulus:	10
	Response:	6
	Total:	16
Exercise Total:		46

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	97.2	96.2	96.9	97.9	97.8	96.8	97.6	96.9	97.3	97.7	97.1
AGE 13 SE	0.3	0.8	0.5	0.6	0.4	0.4	0.4	0.6	0.6	1.0	0.4
GRADE 8 P	98.2	97.9	97.9	97.9	98.9	97.7	98.7	97.7	98.1	98.3	98.3
GRADE 8 SE	0.3	0.6	0.6	0.8	0.6	0.6	0.3	1.0	0.6	0.9	0.5
PART B											
AGE 13 P	96.2	96.8	94.8	97.3	96.0	95.7	96.6	96.7	96.7	95.9	95.9
AGE 13 SE	0.5	0.5	1.6	0.8	0.4	0.6	0.8	0.8	0.9	1.2	0.8
GRADE 8 P	97.6	98.1	96.5	97.9	98.0	97.2	97.9	97.7	96.9	97.4	97.8
GRADE 8 SE	0.3	0.3	0.9	0.8	0.5	0.6	0.4	0.8	1.0	1.0	0.4
PART C											
AGE 13 P	91.5	89.9	89.6	94.7	91.8	90.4	92.6	90.4	91.2	92.4	91.7
AGE 13 SE	0.7	1.3	1.9	0.7	0.9	0.9	0.9	1.7	1.3	1.2	1.0
GRADE 8 P	93.6	93.1	92.6	95.4	93.3	92.9	94.3	92.6	93.4	94.5	93.8
GRADE 8 SE	0.5	0.8	1.5	0.9	1.0	0.8	0.7	1.7	1.2	1.1	0.7

8. A. If 23.8 is subtracted from 62.1, the result is

- ⬬ 38.3
- ⬭ 48.3
- ⬭ 49.3
- ⬭ 85.9

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R026A

NAEP #: C2C201-2

Content: C. Arithmetic computation

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-06
National P-value:		
R026A	80.8	74.2

Timing: (in seconds)

Stimulus:	13
Response:	19
Exercise Total:	32

NOTE: Part R026B is unreleased and does not appear in this volume.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	74.2	69.1	69.9	78.3	79.1	69.5	78.9	69.6	76.2	78.1	73.7
AGE 13 SE	1.4	2.8	2.2	1.9	3.2	1.7	1.3	2.3	3.2	5.0	1.2
GRADE 8 P	80.8	78.7	75.2	84.0	84.2	76.2	84.9	76.4	81.5	85.9	80.2
GRADE 8 SE	1.3	2.0	3.1	1.9	2.9	1.9	1.1	2.6	3.9	3.0	1.2

A. What is the sum of these numbers?

19, 757, 8, 65, 199

- ⬭ 948
- ⬭ 1028
- ⬬ 1048
- ⬭ 1127

⬭ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R027A

NAEP #: C2C202-3

Content: C. Arithmetic computation

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

	17	Gr11
Age/Modal Grade:	02-02	-
Package-Exercise:		
National P-value:		
R027A	77.0	80.2

Timing: (in seconds)

Stimulus:	5
Response:	41
Exercise Total:	46

NOTE: Part R027B is unreleased and does not appear in this volume.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	77.0	69.3	77.7	80.1	79.1	75.0	79.1	77.4	80.1	77.0	75.9
AGE 17 SE	0.8	2.4	1.9	1.0	1.4	1.2	0.9	2.3	1.5	2.0	1.2
GRADE 11 P	80.2	73.5	81.6	82.4	81.3	78.3	81.9	82.4	82.5	80.7	78.6
GRADE 11 SE	0.8	2.0	1.7	1.0	1.5	1.3	0.8	1.8	1.8	1.9	1.1

A. Mr. Johnson used 13 gallons of gasoline in driving 208 miles. How many miles to the gallon did he get?

- ⬭ 12 miles per gallon
- ⬭ 15 miles per gallon
- ⬬ 16 miles per gallon
- ⬭ 18 miles per gallon

- ⬭ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

M-C2C401-3.4

Release #: R028A

NAEP #: C2C401-3

Content: C. Arithmetic computation

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr11
Age/Modal Grade:	02-28	-
Package-Exercise:		
National P-value:		
R028A	80.7	84.1

Timing: (in seconds)

Stimulus:	12
Response:	29
Exercise Total:	41

NOTE: Part R028B is unreleased and does not appear in this volume.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	80.7	75.9	81.7	84.2	79.5	79.8	81.5	74.6	84.8	78.7	81.9
AGE 17 SE	1.0	2.5	2.5	1.5	1.6	1.1	1.3	2.9	1.7	2.6	1.3
GRADE 11 P	84.1	78.6	85.8	87.6	82.5	83.3	84.9	79.2	87.4	83.5	84.6
GRADE 11 SE	0.9	1.8	2.1	0.9	1.8	1.0	1.1	3.1	1.5	2.4	1.0

A. What is the result of the following subtraction?

$$\begin{array}{r} \$18.08 \\ -\quad .99 \\ \hline \end{array}$$

- ○ $16.19
- ● $17.09
- ○ $17.19
- ○ $18.09

- ○ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R029A

NAEP #: C2E401-2

Content: C. Arithmetic computation

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-29
National P-value:		
R029A	81.5	77.1

Timing: (in seconds)

Stimulus:	7
Response:	23
Exercise Total:	30

NOTE: Part R029B is located under Content E: Measurement estimation.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	77.1	75.0	72.0	80.4	81.3	76.7	77.4	73.6	80.3	78.4	76.9
AGE 13 SE	1.2	2.4	2.8	2.0	2.3	1.5	1.5	2.4	3.3	3.0	1.7
GRADE 8 P	81.5	80.2	77.2	83.6	84.5	81.6	81.3	79.5	82.7	85.0	80.8
GRADE 8 SE	1.3	1.4	2.0	2.4	3.3	1.7	1.4	1.8	3.5	1.7	1.9

$15\overline{)345}$

What is the result when you divide the above numbers?

- ○ 13
- ○ 22
- ● 23
- ○ 25

- ○ I don't know.

67

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R030

NAEP #: C20001-2

Content: C. Arithmetic computation

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-30
National P-value:		
R030	86.2	80.4

Timing: (in seconds)

Stimulus:	7
Response:	39
Exercise Total:	46

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	80.4	72.6	78.2	86.0	84.1	78.9	81.9	79.2	83.8	81.1	79.5
AGE 13 SE	0.8	1.8	0.9	1.5	1.5	1.1	0.9	2.0	1.9	3.7	1.0
GRADE 8 P	86.2	81.2	83.2	90.3	89.0	85.4	87.0	84.4	87.8	89.1	85.3
GRADE 8 SE	0.7	1.4	1.2	1.4	1.1	0.9	0.7	2.3	1.7	2.1	1.1

What is the result of the following multiplication?

$$\frac{1}{2} \times \frac{1}{4} =$$

- $\frac{1}{8}$
- $\frac{2}{8}$
- $\frac{3}{4}$
- 8

- I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R031

NAEP #: C20002-23

Content: C. Arithmetic computation

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	02-04	02-03	-
National P-value:				
R031	81.3	77.4	81.1	82.3

Timing: (in seconds)

Stimulus:	7	5
Response:	14	15
Exercise Total:	21	20

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	77.4	77.6	74.8	79.0	78.4	74.2	80.6	73.8	81.7	75.6	77.6
AGE 13 SE	1.1	1.6	1.4	2.6	2.7	1.6	1.2	3.3	2.3	2.3	1.5
GRADE 8 P	81.3	80.4	79.6	83.5	81.5	78.4	84.0	80.6	82.0	82.2	81.0
GRADE 8 SE	1.2	2.1	1.6	2.4	3.3	2.0	1.1	2.8	2.4	2.1	2.0
AGE 17 P	81.1	81.6	81.1	82.3	79.2	78.5	83.6	80.3	78.6	81.8	82.0
AGE 17 SE	0.8	0.7	1.4	1.7	1.9	1.2	1.0	1.8	2.2	2.6	0.9
GRADE 11 P	82.3	82.9	82.7	83.4	80.1	79.5	84.9	82.3	78.7	82.5	83.4
GRADE 11 SE	0.9	0.6	1.8	1.7	2.3	1.3	1.1	2.4	2.8	2.6	1.0

$ 3.06
10.00
9.14
5.10

What is the sum of the amounts of money shown above?

- ○ $17.20
- ○ $17.30
- ● $27.30
- ○ $27.20
- ○ $28.30

- ○ I don't know.

71

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R033

NAEP #: C20004-23

Content: C. Arithmetic computation

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	02-17	02-16	-
National P-value:				
R033	89.0	86.8	90.0	91.3

Timing: (in seconds)

Stimulus:	6	5
Response:	25	25
Exercise Total:	31	30

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	86.8	87.4	85.2	87.2	87.5	85.3	88.3	83.7	87.4	86.0	87.6
AGE 13 SE	0.8	1.2	1.9	1.6	1.2	1.3	0.8	2.6	1.8	1.8	0.9
GRADE 8 P	89.0	90.1	87.3	89.0	89.8	88.4	89.6	87.3	87.6	91.0	89.4
GRADE 8 SE	0.7	1.5	1.9	1.2	1.2	1.2	0.8	1.7	2.6	1.7	0.9
AGE 17 P	90.0	88.4	89.1	92.0	90.0	88.2	91.8	87.7	90.8	89.7	90.6
AGE 17 SE	0.5	1.3	1.1	0.7	1.0	0.8	0.6	1.8	1.3	1.3	0.6
GRADE 11 P	91.3	89.0	91.2	92.8	91.5	89.7	92.9	90.4	91.8	91.5	91.4
GRADE 11 SE	0.5	1.1	0.9	0.8	0.9	0.8	0.6	1.3	1.5	1.3	0.7

$12 \div 2.4 =$

- ○ 0.005
- ○ 0.05
- ○ 0.5
- ● 5.0

- ○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

M-C20006-3,4

Release #: R035

NAEP #: C20006-3

Content: C. Arithmetic computation

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr11
Age/Modal Grade:	01-05	-
Package-Exercise:		
National P-value:		
R035	48.6	50.5

Timing: (in seconds)

Stimulus:	8
Response:	32
Exercise Total:	40

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	48.6	41.5	47.9	53.5	49.8	51.0	46.2	44.4	49.4	45.8	50.2
AGE 17 SE	1.3	2.4	2.4	2.9	2.3	1.4	1.9	2.5	3.8	3.6	1.4
GRADE 11 P	50.5	43.4	50.2	56.6	50.1	55.2	46.4	45.6	52.3	45.8	52.6
GRADE 11 SE	1.3	2.1	2.2	2.7	2.4	1.5	1.9	2.4	4.1	3.5	1.5

B. In a certain company, 54 of the 85 employees are women. The percent of employees who are women is equal to

- ○ $\frac{54}{100}$
- ○ $\frac{100}{85}$
- ● $100 \times (\frac{54}{85})$
- ○ $100 \times (\frac{85}{54})$

- ○ I don't know.

M-A3C301-3,4

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R007B

NAEP #: A3C301-3

Content: C. Arithmetic computation

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type:	Multiple choice Mechanical-optical scanner	
Admin Mode & Instr Meth:	Group Read by paced tape recording	
Stem Admin Mode:	Read by paced tape recording	
Foils Admin Mode:	Read by respondent	
Age/Modal Grade:	17 02-18	Gr11 -
Package-Exercise:		
National P-value:		
R007B	59.4	60.9

Timing: (in seconds)

Stimulus:	15
Response:	20
Exercise Total:	35

NOTE: Part R007A is located under Content A: Number and numeration concepts.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART B											
AGE 17 P	59.4	53.9	59.2	64.6	58.2	60.2	58.6	54.4	62.0	56.1	61.2
AGE 17 SE	1.2	1.9	2.7	2.3	2.3	1.5	1.3	4.0	2.5	2.6	1.3
GRADE 11 P	60.9	56.5	60.7	66.1	58.6	61.9	60.0	55.4	62.2	57.9	63.0
GRADE 11 SE	1.2	1.8	2.4	2.4	2.7	1.6	1.5	4.2	3.2	3.0	1.3

B. Bill and Ann each have 6 piles of pennies. Bill has 3 pennies in each pile and Ann has 5 pennies in each pile. Then

- ⬭ Ann has 6 more pennies than Bill.
- ⬬ Ann has 12 more pennies than Bill.
- ⬭ Ann has 15 more pennies than Bill.
- ⬭ they have the same number of pennies.

- ⬭ I don't know.

M-F3C401-2

77

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R067B

NAEP #: F3C401-2

Content: C. Arithmetic computation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

	Gr8	13
Age/Modal Grade:		
Package-Exercise:	-	01-24
National P-value:		
R067B	71.4	65.8

Timing: (in seconds)

Stimulus:	24
Response:	39
Exercise Total:	63

NOTE: Part R067A is located under Content F: Mathematical sentences.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART B											
AGE 13 P	65.8	59.8	63.7	69.1	70.0	65.9	65.6	64.2	70.2	65.6	65.0
AGE 13 SE	1.2	2.7	2.0	2.0	2.1	1.5	1.3	2.9	2.2	4.3	1.2
GRADE 8 P	71.4	66.0	70.1	73.1	75.2	72.5	70.5	71.1	73.8	71.5	70.7
GRADE 8 SE	1.0	2.0	2.0	2.2	1.1	1.3	1.2	2.7	2.2	2.8	1.5

5. A salesman's commission on a car costing $2250 is $337.50. His commission is what percent of the cost?

- ⬭ 1.5%
- ⬭ 6.6%
- ⬬ 15%
- ⬭ 20%

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

79

M-I4C401-3.4

Release #: R103B

NAEP #: I4C401-3

Content: C. Arithmetic computation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type:	Multiple choice Mechanical-optical scanner	
Admin Mode & Instr Meth:	Group Read by paced tape recording	
Stem Admin Mode:	Read by paced tape recording	
Foils Admin Mode:	Read by respondent	
Age/Modal Grade:	17	Gr11
Package-Exercise:	02-34	-
National P-value:		
R103B	32.5	33.0

Timing: (in seconds)

Stimulus:	14
Response:	62
Exercise Total:	76

NOTE: Part R103A is located under Content I: Personal and consumer math.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART B											
AGE 17 P	32.5	30.9	32.2	32.5	34.0	36.6	28.6	31.5	36.5	29.8	32.3
AGE 17 SE	0.9	2.6	1.5	1.5	1.6	1.2	1.2	2.1	2.3	2.6	1.2
GRADE 11 P	33.0	32.2	32.8	33.1	33.8	37.0	29.3	30.7	36.3	29.7	33.6
GRADE 11 SE	1.0	3.2	2.0	1.3	1.5	1.4	1.4	2.3	1.7	3.1	1.3

A. Mr. Simmons put a wire fence all the way around his rectangular garden. The garden is nine feet long and five feet wide. How many feet of fencing did he use?

- ⬭ 14 feet
- ⬭ 23 feet
- ▬ 28 feet
- ⬭ 45 feet

- ⬭ I don't know.

B. A rocket was directed at a target 525 miles south of the launching point. It landed 624 miles south of the launching point. By how many miles did it miss its target?

- ⬭ 1 mile
- ▬ 99 miles
- ⬭ 101 miles
- ⬭ 109 miles
- ⬭ 1149 miles

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R037A
R037B

NAEP #: C4C401-2

Content: C. Arithmetic computation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-28
National P-value:		
R037A	40.8	36.9
R037B	68.9	62.9

Timing: (in seconds)

Part A. Stimulus:	16
Response:	30
Total:	46
Part B. Stimulus:	18
Response:	29
Total:	47
Exercise Total:	93

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	36.9	26.5	35.8	42.4	42.0	43.0	30.8	35.0	36.5	37.9	37.3
AGE 13 SE	1.2	2.4	2.0	1.9	2.6	1.7	1.3	2.7	1.7	5.0	1.5
GRADE 8 P	40.8	28.9	40.3	47.3	44.6	48.4	33.9	39.8	39.4	41.5	41.3
GRADE 8 SE	1.1	2.1	1.7	1.8	2.6	1.6	1.3	2.9	1.6	4.0	1.6
PART B											
AGE 13 P	62.9	55.0	61.1	67.8	66.7	62.2	63.5	62.3	67.7	61.8	61.9
AGE 13 SE	1.3	2.9	1.9	2.3	2.7	1.7	1.5	3.1	2.4	5.3	1.4
GRADE 8 P	68.9	62.1	67.1	73.5	71.6	68.9	68.9	69.2	71.8	70.1	67.5
GRADE 8 SE	1.2	2.8	2.2	1.9	2.2	1.7	1.4	3.1	2.4	4.5	1.5

A. Jim and his family took a 3 day trip. On the first day they drove 287 miles, on the second day they drove 302 miles, and on the third day they drove 95 miles. How many miles did they drive in the 3 days?

- ⬭ 589 miles
- ⬭ 674 miles
- ⬬ 684 miles
- ⬭ 705 miles

- ⬭ I don't know.

B. If a jet plane flies at an average speed of 600 miles per hour, ABOUT how long will it take to travel 2975 miles? (Express your answer to the NEAREST WHOLE NUMBER of hours.)

- ⬭ 1 hour
- ⬭ 4 hours
- ⬬ 5 hours
- ⬭ 178,500 hours

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R038A
R038B

NAEP #: C4C402-2

Content: C. Arithmetic computation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner
Admin Mode & Instr Meth: Group
Read by paced tape recording
Stem Admin Mode: Read by paced tape recording
Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-12
National P-value:		
R038A	93.2	88.9
R038B	53.1	50.6

Timing: (in seconds)

Part A.	Stimulus:	24
	Response:	28
	Total:	52
Part B.	Stimulus:	20
	Response:	20
	Total:	40
Exercise Total:		92

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	88.9	87.2	86.9	91.5	90.1	87.3	90.5	86.0	93.3	87.8	88.8
AGE 13 SE	0.8	1.7	1.5	2.0	0.9	1.2	0.9	2.9	1.0	2.0	1.0
GRADE 8 P	93.2	92.3	92.3	95.0	93.2	91.8	94.6	90.8	96.1	94.1	92.8
GRADE 8 SE	0.6	1.4	1.2	1.5	0.9	0.9	0.6	1.5	0.9	1.3	0.9
PART B											
AGE 13 P	50.6	48.6	46.7	53.2	54.1	54.2	46.8	51.9	52.0	50.8	49.7
AGE 13 SE	1.2	2.1	1.4	2.1	3.9	1.7	1.4	2.1	2.8	4.5	1.5
GRADE 8 P	53.1	51.6	50.1	56.4	53.7	58.0	48.4	54.4	54.6	53.7	52.1
GRADE 8 SE	1.4	1.9	1.6	2.2	4.5	2.1	1.6	2.3	3.4	3.9	1.9

A. To make a liquid fertilizer, 3 gallons of chemicals are mixed with water to form 11 gallons of the mixture. What is the ratio of the number of gallons of chemicals to the number of gallons of water in the mixture?

- ⬭ 3 to 11
- ⬬ 3 to 8
- ⬭ 11 to 8
- ⬭ 8 to 3

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R039A

NAEP #: C4E401-3

Content: C. Arithmetic computation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	17	Gr 11
Package-Exercise:	01-24	-
National P-value:		
R039A	52.1	54.4

Timing: (in seconds)

Stimulus:	17
Response:	29
Exercise Total:	46

NOTE: Part R039B is located under Content E: Measurement and estimation.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	52.1	46.4	53.2	53.7	53.7	54.8	49.5	47.7	56.2	50.2	52.4
AGE 17 SE	1.1	2.9	2.2	1.7	2.0	1.4	1.4	3.6	2.6	3.6	1.2
GRADE 11 P	54.4	46.8	56.0	58.3	54.6	58.3	50.9	49.3	55.9	50.5	56.3
GRADE 11 SE	1.2	3.6	2.3	1.3	2.5	1.6	1.7	4.9	2.7	3.7	1.3

A state changes its sales tax from 3 percent to 4 percent. How much ADDITIONAL sales tax would you now pay on a new car that costs $2,760.00?

- ⬭ $ 2.76
- ⬭ $ 11.04
- ⬬ $ 27.60
- ⬭ $110.40

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R040

NAEP #: C40001-3

Content: C. Arithmetic computation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr 11
Age/Modal Grade:	01-09	-
Package-Exercise:		
National P-value:		
P040	44.0	45.3

Timing: (in seconds)

Stimulus:	15
Response:	40
Exercise Total:	55

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPI
AGE 17 P	44.0	41.1	43.4	45.7	45.2	47.2	40.9	41.8	42.4	42.4	45.6
AGE 17 SE	1.0	1.9	1.8	1.8	2.1	1.3	1.4	3.1	3.2	2.1	1.1
GRADE 11 P	45.3	42.2	45.1	47.1	46.3	50.4	40.8	42.5	46.7	42.4	46.5
GRADE 11 SE	1.1	2.4	2.1	1.7	2.5	1.5	1.5	4.2	4.2	2.4	1.2

A. Twenty minutes is what part of an hour?

- ○ $\frac{1}{2}$
- ● $\frac{1}{3}$
- ○ $\frac{1}{4}$
- ○ $\frac{2}{5}$
- ○ $\frac{1}{5}$

○ I don't know.

B. How many square inches are there in a square foot?

- ○ 1 square inch
- ○ 12 square inches
- ○ 48 square inches
- ● 144 square inches

○ I don't know.

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R044A
R044B

NAEP #: E2E101-3

Content: E. Measurement and estimation

Behavioral objective: 2. Perform mathematical manipulations (Part A)
1. Recognize facts, definitions, symbols (Part B)

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	17	Gr11
Package-Exercise:	01-15	-
National P-value:		
R044A	82.6	85.5
R044B	44.3	47.2

Timing: (in seconds)

Part A.	Stimulus:	5
	Response:	16
	Total:	21
Part B.	Stimulus:	6
	Response:	29
	Total:	35
Exercise Total:		56

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	82.6	76.3	82.6	86.6	83.4	84.7	80.5	75.3	83.6	81.0	84.7
AGE 17 SE	0.8	1.6	1.9	1.2	1.7	1.1	1.2	2.8	2.2	2.5	0.9
GRADE 11 P	85.5	79.0	86.0	89.0	86.2	88.9	82.3	79.5	87.6	82.2	87.3
GRADE 11 SE	0.8	1.8	1.9	1.3	1.2	1.0	1.2	2.8	2.0	2.3	1.0
PART B											
AGE 17 P	44.3	35.8	44.4	49.1	45.6	55.0	33.8	34.9	44.0	42.3	47.5
AGE 17 SE	1.3	2.9	2.9	2.0	2.3	1.7	1.5	4.8	3.2	4.0	1.5
GRADE 11 P	47.2	38.4	47.9	53.4	46.8	61.2	34.7	40.2	46.5	43.9	50.1
GRADE 11 SE	1.3	3.2	2.8	2.1	1.9	1.9	1.6	6.0	3.1	3.8	1.6

Sally worked from 4:25 p.m. to 5:00 p.m. How many minutes did she work?

- ● 35 minutes
- ○ 75 minutes
- ○ 125 minutes
- ○ 135 minutes

- ○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO

Release #: R045

NAEP #: E20001-2

Content: E. Measurement and estimation

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

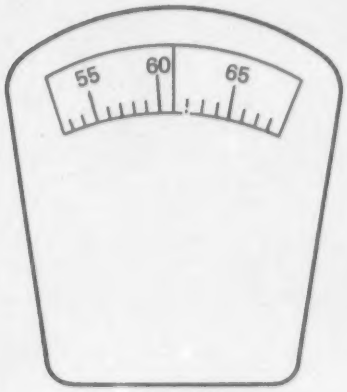
Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-20
National P-value:		
R045	78.9	74.7

Timing: (in seconds)

Stimulus:	10
Response:	36
Exercise Total:	46

	NAT	REGION				SEX		COMMUNITY SIZE (DCC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	74.7	68.0	73.9	77.8	78.6	80.7	68.7	76.1	79.9	76.4	72.3
AGE 13 SE	1.1	2.4	2.4	1.6	1.7	1.3	1.3	2.3	1.7	3.0	1.4
GRADE 8 P	78.9	72.3	80.3	80.9	81.1	85.9	72.6	80.6	82.9	80.9	76.5
GRADE 8 SE	0.9	2.3	2.4	1.5	1.3	1.1	1.3	2.2	1.8	2.5	1.4

A person is standing on the scale below weighing himself. How much does he weigh?



- ⬭ 59 pounds
- ⬬ 61 pounds
- ⬭ 62 pounds
- ⬭ 63 pounds

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R046

NAEP #: E20002-2

Content: E. Measurement and estimation

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-34
National P-value:		
P046	90.7	89.7

Timing: (in seconds)

Stimulus:	14
Response:	28
Exercise Total:	42

	NAT	REGION				SEX		COMMUNITY SIZE (DCC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	89.7	90.4	90.6	88.7	89.1	89.9	89.5	91.5	90.9	90.6	88.6
AGE 13 SE	0.6	1.1	0.8	0.7	1.8	0.8	0.7	1.2	1.1	1.5	0.9
GRADE 8 P	90.7	92.0	91.2	89.7	90.2	90.4	91.0	93.3	90.8	91.3	89.7
GRADE 8 SE	0.8	1.3	1.0	0.7	2.4	1.0	0.9	1.1	1.2	1.7	1.2

How many centimeters are there in $1\frac{1}{2}$ meters?

- ⬭ 15 centimeters
- ⬬ 150 centimeters
- ⬭ 1,500 centimeters
- ⬭ 15,000 centimeters

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R047

NAEP #: E20004-3

Content: E. Measurement and estimation

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr 11
Age/Modal Grade:		
Package-Exercise:	01-32	-
National P-value:		
R047	46.9	48.2

Timing: (in seconds)

Stimulus:	6
Response:	24
Exercise Total:	30

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	46.9	42.0	44.5	50.0	50.0	53.3	40.7	47.6	49.5	46.9	45.8
AGE 17 SE	1.1	1.8	2.4	2.3	2.2	1.4	1.5	3.4	2.6	2.4	1.5
GRADE 11 P	48.2	43.6	45.7	52.5	50.2	56.2	41.2	51.3	52.0	47.5	46.4
GRADE 11 SE	1.2	1.5	3.0	2.6	1.8	1.6	1.6	3.5	2.9	2.1	1.6

Ginny's dress pattern calls for 72 inches of velvet ribbon. Ribbon is sold by the foot. Which one of the following will tell her how many FEET of ribbon she should buy?

- ⬭ $72 \div 3$
- ⬭ $(72 \div 3) \times 12$
- ⬬ $72 \div 12$
- ⬭ $72 \div 36$

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO

97

Release #: R048

NAEP #: E30001-2

Content: E. Measurement and estimation

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-09
National P-value:		
R048	79.3	73.2

Timing: (in seconds)

Stimulus:	15
Response:	26
Exercise Total:	41

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	73.2	65.2	70.6	78.9	77.5	72.4	74.0	68.7	79.5	71.7	73.1
AGE 13 SE	1.2	2.6	2.0	2.3	2.0	1.6	1.3	2.9	2.1	5.1	1.6
GRADE 8 P	79.3	72.1	77.0	85.3	81.6	79.4	79.2	75.8	83.8	78.5	79.1
GRADE 8 SE	0.9	2.4	1.8	1.3	1.6	1.4	1.2	2.7	1.8	4.4	1.2

What must one do to find the number of centimeters in 5 meters?

- ⬭ Divide 5 by 10
- ⬭ Multiply 5 by 12
- ⬭ Divide 5 by 36
- ⬬ Multiply 5 by 100

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R049

NAEP #: E30002-2

Content: E. Measurement and estimation

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-32
National P-value:		
R049	51.3	46.0

Timing: (in seconds)

Stimulus:	16
Response:	26
Exercise Total:	42

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	46.0	37.6	40.4	53.5	51.7	48.1	43.9	42.0	57.3	45.7	43.9
AGE 13 SE	1.7	3.2	2.8	2.2	4.3	1.8	1.8	3.3	2.0	4.9	2.2
GRADE 8 P	51.3	41.0	47.4	59.2	55.5	54.1	48.8	48.0	62.7	49.3	49.2
GRADE 8 SE	2.0	4.3	3.7	2.5	4.5	2.3	2.1	4.4	2.3	5.0	2.8

A. In one week Joe worked:

15 minutes on Monday
10 minutes on Tuesday
30 minutes on Wednesday
20 minutes on Thursday
45 minutes on Friday

In all, how much did he work during this week?

- ⬭ 1 hour
- ⬭ 100 minutes
- ⬬ 2 hours
- ⬭ 2 hours and 20 minutes
- ⬭ 1 hour and 50 minutes

- ⬭ I don't know.

B. Which one of these means three hours after midnight?

- ⬭ 9 a.m.
- ⬭ 9 p.m.
- ⬬ 3 a.m.
- ⬭ 3 p.m.

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R050A
R050B

NAEP #: E4E101-2

Content: E. Measurement and estimation

Behavioral objective: 4. Solve mathematical problems (Part A)
1. Recognize facts, definitions, symbols (Part B)

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Part A read by paced tape recording
Part B read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-15
National P-value:		
R050A	70.6	63.4
R050B	88.1	83.2

Timing: (in seconds)

Part A.	Stimulus:	28
	Response:	35
	Total:	63
Part B.	Stimulus:	8
	Response:	13
	Total:	21
Exercise Total:		84

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	63.4	53.6	59.4	68.7	70.8	64.2	62.5	63.1	70.3	64.6	61.0
AGE 13 SE	1.6	2.0	2.7	1.9	4.6	1.7	1.8	3.7	2.2	4.7	1.9
GRADE 8 P	70.6	62.2	66.6	74.5	76.8	72.1	69.2	71.8	75.5	73.8	67.6
GRADE 8 SE	1.6	2.0	1.6	1.8	4.3	1.9	1.8	3.3	1.9	4.3	2.3
PART B											
AGE 13 P	83.2	75.8	83.8	86.5	86.1	81.9	84.6	85.1	87.8	80.7	82.1
AGE 13 SE	0.8	2.4	1.3	1.1	0.9	1.2	1.1	1.6	1.3	4.3	0.9
GRADE 8 P	88.1	82.4	89.3	90.0	89.6	86.7	89.3	90.8	90.3	87.4	86.7
GRADE 8 SE	0.6	1.8	1.5	1.1	0.8	1.1	0.9	1.5	1.0	3.3	0.9

A. George was born on December 1, 1958, and Sara was born on May 1, 1961. How much older than Sara is George?

- [x] 2 years, 5 months
- [ ] 2 years, 6 months
- [ ] 2 years, 7 months
- [ ] 3 years, 4 months
- [ ] 3 years, 5 months

- [ ] I don't know.

B. A girl is 30 months old. What is her age in years and months?

- [ ] 1 year, 24 months
- [ ] 2 years, 0 months
- [x] 2 years, 6 months
- [ ] 3 years, 0 months

- [ ] I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R051A
R051B

NAEP #: E4E201-2

Content: E. Measurement and estimation

Behavioral objective: 4. Solve mathematical problems (Part A)
2. Perform mathematical manipulations (Part B)

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-18
National P-value:		
R051A	10.4	10.2
R051B	88.2	82.2

Timing: (in seconds)

Part A.	Stimulus:	25
	Response:	41
	Total:	66
Part B.	Stimulus:	16
	Response:	25
	Total:	41
Exercise Total:		107

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	10.2	9.0	9.5	10.7	11.4	11.1	9.3	8.8	12.9	10.1	9.8
AGE 13 SE	0.6	1.5	1.1	1.2	1.1	0.8	0.7	1.1	1.8	2.5	0.6
GRADE 8 P	10.4	9.3	8.7	11.9	11.5	11.7	9.3	8.4	13.5	10.6	10.0
GRADE 8 SE	0.7	1.4	1.2	1.5	1.3	1.0	0.8	1.3	2.2	2.1	0.8
PART B											
AGE 13 P	82.2	75.6	79.9	84.6	88.0	83.1	81.2	80.5	87.7	80.5	81.6
AGE 13 SE	1.3	2.6	2.6	2.3	2.2	1.5	1.4	3.7	1.7	4.7	1.5
GRADE 8 P	88.2	81.9	86.0	91.4	92.2	89.3	87.3	88.3	92.2	85.2	87.9
GRADE 8 SE	0.9	2.0	1.9	1.0	1.4	1.1	1.0	2.3	1.3	3.7	1.2

A. The scale on a drawing is $\frac{1}{16}$ in. = 1 foot. How large is a room that measures $\frac{7}{8}$ in. by $1\frac{1}{4}$ in. on the drawing?

- ⬭ 7 feet x 5 feet
- ⬭ 7 feet x 20 feet
- ⬭ 14 feet x 5 feet
- ⬬ 14 feet x 20 feet

- ⬭ I don't know.

B. 1 pound 8 ounces minus 10 ounces =

- ⬭ 2 ounces
- ⬭ 8 ounces
- ⬬ 14 ounces
- ⬭ 16 ounces

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R052A
R052B

NAEP #: E4E202-3

Content: E. Measurement and estimation

Behavioral objective: 4. Solve mathematical problems (Part A)
2. Perform mathematical manipulations (Part B)

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Part A read by paced tape recording
Part B read by respondent

	Age 17 01-30	Gr 11 -
Age/Modal Grade:		
Package-Exercise:		
National P-value:		
R052A	46.7	49.2
R052B	81.0	83.6

Timing: (in seconds)

Part A. Stimulus:	22
Response:	54
Total:	76
Part B. Stimulus:	10
Response:	29
Total:	39
Exercise Total:	115

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	46.7	37.9	46.0	51.3	49.6	53.7	40.0	37.8	47.5	42.3	50.2
AGE 17 SE	1.5	2.1	2.8	2.3	3.9	1.7	2.0	3.7	3.3	3.9	1.6
GRADE 11 P	49.2	40.4	47.9	55.4	50.9	59.2	40.3	40.6	47.7	42.4	53.8
GRADE 11 SE	1.5	2.3	2.6	2.5	4.1	1.7	2.1	4.0	3.2	4.0	1.7
PART B											
AGE 17 P	81.0	76.0	78.3	85.8	82.5	82.4	79.5	72.4	79.1	79.3	84.4
AGE 17 SE	0.9	2.4	2.0	1.1	1.6	1.1	1.2	3.3	2.5	2.7	0.9
GRADE 11 P	83.6	79.2	81.9	88.9	83.3	86.4	81.1	75.4	82.5	80.8	87.0
GRADE 11 SE	1.0	2.7	2.1	1.2	1.8	1.2	1.3	3.7	2.8	2.4	0.9

B. A worker went to his job at 7:45 a.m. and returned home exactly 10 hours later. At what time did he reach home?

- ⬭ 4:45 p.m.
- ⬬ 5:45 p.m.
- ⬭ 7:55 p.m.
- ⬭ 8:45 p.m.

- ⬭ I don't know.

M-C2E401-2

197

STOP

DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R029B

NAEP #: C2E401-2

Content: E. Measurement and estimation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Admin Mode & Instr Meth: Mechanical-optical scanner
Group
Stem Admin Mode: Read by paced tape recording
Foils Admin Mode: Read by paced tape recording
Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-29
National P-value:		
R029B	77.2	72.4

Timing: (in seconds)

Stimulus:	13
Response:	38
Exercise Total:	51

NOTE: Part R029A is located under Content C: Arithmetic computation.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART B											
AGE 13 P	72.4	64.6	71.0	77.1	76.2	74.1	70.6	74.0	82.6	68.1	70.2
AGE 13 SE	1.1	2.5	2.1	1.9	2.0	1.1	1.6	3.3	1.7	4.1	1.1
GRADE 8 P	77.2	72.6	76.9	79.6	78.8	79.2	75.4	77.8	85.8	75.0	75.1
GRADE 8 SE	1.1	3.0	2.0	2.2	2.0	1.2	1.9	3.5	1.8	5.4	1.4

B. A gallon of asphalt paint will cover about 250 square feet of surface area. This paint is sold in gallon cans only. How many gallon cans are needed to paint a driveway 48 feet long and 10 feet wide?

- ● 2 gallon cans
- ○ 3 gallon cans
- ○ 250 gallon cans
- ○ 480 gallon cans

- ○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R039B

NAEP #: C4E401-3

Content: E. Measurement and estimation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr11
Age/Modal Grade:	01-24	-
Package-Exercise:		
National P-value:		
R039B	59.1	61.6

Timing: (in seconds)

Stimulus:	18
Response:	22
Exercise Total:	40

NOTE: Part P039A is located under Content C: Arithmetic computation.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPI
PART B											
AGE 17 P	59.1	51.0	59.6	63.4	60.6	63.5	54.9	55.3	58.9	57.0	60.8
AGE 17 SE	1.1	2.0	2.6	2.0	1.9	1.5	1.6	3.5	3.5	2.6	1.2
GRADE 11 P	61.6	53.4	61.3	66.9	62.8	67.7	56.2	59.5	61.2	56.8	63.6
GRADE 11 SE	1.2	2.1	3.0	1.9	2.0	1.7	1.7	3.9	4.2	2.9	1.4

Curtains six feet seven inches long are needed for a set of windows. Which one of the following standard curtain lengths is CLOSEST to the length required?

- ⬭ 66 inches
- ⬭ 72 inches
- ⬬ 84 inches
- ⬭ 90 inches

- ⬭ I don't know.

96 STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R053

NAEP #: E40001-23

Content: E. Measurement and estimation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	02-05	02-04	-
National P-value:				
R053	43.0	38.6	61.4	63.9

Timing: (in seconds)

	13	17
Stimulus:	18	15
Response:	48	41
Exercise Total:	66	56

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	38.6	30.7	36.0	42.9	44.3	42.4	34.7	39.6	46.0	40.6	35.9
AGE 13 SE	1.2	2.6	2.2	2.5	2.2	1.4	1.8	2.3	2.9	4.0	1.7
GRADE 8 P	43.0	33.7	40.2	47.5	48.5	46.6	39.6	44.4	49.8	48.1	39.5
GRADE 8 SE	1.4	3.2	1.9	2.7	2.6	1.7	1.9	3.0	3.2	5.5	1.8
AGE 17 P	61.4	52.3	60.6	67.3	62.8	65.4	57.4	54.8	68.1	56.7	62.7
AGE 17 SE	1.3	2.8	3.0	2.6	1.9	1.7	1.5	4.2	2.9	2.6	1.5
GRADE 11 P	63.9	55.9	62.8	70.3	64.0	68.3	59.9	57.0	69.5	59.2	65.5
GRADE 11 SE	1.2	2.8	2.8	1.9	2.2	1.7	1.3	4.4	3.0	3.3	1.4

A housewife will pay the lowest price per ounce for rice if she buys it in a store which offers

- ⬭ 12 ounces for 40 cents
- ⬬ 1 pound, 12 ounces for 85 cents
- ⬭ 2 pounds for 99 cents

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: P054

NAEP #: E40002-23

Content: E. Measurement and estimation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	02-20	02-20	-
National P-value:				
R054	28.6	27.0	33.8	35.0

Timing: (in seconds)

Stimulus:	16	14
Response:	91	94
Exercise Total:	107	108

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	27.0	24.9	24.3	26.1	32.9	27.9	26.0	27.5	30.7	27.8	25.7
AGE 13 SE	0.8	2.0	1.1	1.7	1.5	1.4	1.2	2.3	2.5	2.2	1.2
GRADE 8 P	28.6	25.7	26.8	28.5	32.5	29.3	27.9	29.6	31.2	29.8	27.2
GRADE 8 SE	1.0	2.2	1.8	2.0	1.5	1.8	1.5	3.4	2.4	3.2	1.3
AGE 17 P	33.8	30.6	34.1	35.1	34.6	36.5	31.1	33.1	33.3	31.3	35.0
AGE 17 SE	1.0	2.3	1.8	2.2	1.8	1.3	1.4	3.5	2.9	2.7	1.3
GRADE 11 P	35.0	31.2	35.9	35.9	35.9	38.3	31.9	33.9	32.4	33.5	36.5
GRADE 11 SE	1.2	2.1	2.2	2.7	2.2	1.6	1.6	4.1	3.1	2.7	1.8

If you are calling your grandmother on the telephone, and the operator says, "Sixty-five cents, please." which set of coins would NOT total 65¢?

- ⬭ 6 dimes and 1 nickel
- ⬭ 2 quarters, 1 dime and 1 nickel
- ⬬ 1 quarter, 3 nickels and 2 dimes
- ⬭ 13 nickels
- ⬭ 3 dimes and 7 nickels

- ⬭ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: P055

NAEP #: E40003-2

Content: E. Measurement and estimation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

	Gr8	13
Age/Modal Grade:	-	02-24
Package-Exercise:		
National P-value:		
R055	84.2	78.9

Timing: (in seconds)

Stimulus:	24
Response:	82
Exercise Total:	106

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	78.9	75.5	76.3	83.5	80.2	76.9	81.0	74.1	87.1	79.3	78.1
AGE 13 SE	1.2	2.1	2.6	2.7	2.1	1.6	1.2	3.4	2.0	2.3	1.7
GRADE 8 P	84.2	82.6	81.9	87.9	84.1	83.7	84.7	80.7	89.0	84.9	83.6
GRADE 8 SE	1.0	1.7	2.5	2.0	2.0	1.5	1.1	2.0	2.1	2.7	1.6

Joe gave a clerk a dollar for two dime candy bars and a nickel package of gum. If the tax was one penny, what change should he get back?

- 2 quarters, 2 dimes and 4 pennies
- 2 quarters, 1 dime and 4 pennies
- 2 quarters, 4 nickels and 1 penny
- 2 quarters, 2 nickels and 4 pennies

- I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R057

NAEP #: E40005-3

Content: E. Measurement and estimation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr11
Age/Modal Grade:	02-24	-
Package-Exercise:		
National P-value:		
R057	89.4	91.5

Timing: (in seconds)

Stimulus:	11
Response:	39
Exercise Total:	50

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	89.4	87.5	89.3	91.5	88.8	89.4	89.5	84.6	92.5	91.0	89.7
AGE 17 SE	0.8	0.7	1.7	1.1	2.2	1.0	0.9	2.9	1.2	1.3	0.9
GRADE 11 P	91.5	87.7	91.5	93.7	91.9	91.8	91.2	87.7	94.3	92.5	91.5
GRADE 11 SE	0.6	0.8	1.3	0.8	1.5	0.7	0.9	2.4	1.1	1.6	0.7

The Central Standard Time zone is the next zone west of the Eastern Standard Time zone.

A plane left a city at 11:45 a.m. Eastern Standard Time and reached its destination at 1:25 p.m. Central Standard Time. How long did the trip take?

- ⬭ 1 hour and 40 minutes
- ⬭ 2 hours and 20 minutes
- ⬬ 2 hours and 40 minutes
- ⬭ 3 hours and 40 minutes

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO

Release #: R058

NAEP #: E40006-3

Content: E. Measurement and estimation

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

	17	Gr 11
Age/Modal Grade:	01-12	-
Package-Exercise:		
National P-value:		
R058	24.6	24.9

Timing: (in seconds)

Stimulus:	27
Response:	48
Exercise Total:	75

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPI
AGE 17 P	24.6	24.3	23.4	24.8	25.9	27.9	21.5	22.8	25.1	24.5	25.0
AGE 17 SE	0.7	1.2	0.9	1.6	1.9	1.0	1.0	1.6	2.0	2.0	0.9
GRADE 11 P	24.9	23.9	24.2	25.3	25.9	29.1	21.2	24.8	24.3	24.3	25.3
GRADE 11 SE	0.9	1.6	1.2	1.9	2.0	1.2	1.1	1.5	2.2	2.4	1.2

Which one of the following mathematical sentences says that a number x is greater than a number y?

- ● $x > y$
- ○ $x = y$
- ○ $y > x$
- ○ $x + y$

- ○ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: P059

NAEP #: F10001-23

Content: F. Mathematical sentences

Behavioral objective: 1. Recognize facts, definitions, symbols

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	02-31	02-30	-
National P-value:				
R059	90.9	87.4	92.0	93.6

Timing: (in seconds)

Stimulus:	10	9
Response:	11	12
Exercise Total:	21	21

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	87.4	86.7	84.8	90.4	87.9	86.1	88.7	84.0	88.9	89.7	87.4
AGE 13 SE	1.1	1.4	2.9	2.6	0.9	1.3	1.2	2.6	1.8	2.0	1.7
GRADE 8 P	90.9	91.3	89.1	92.2	90.9	90.2	91.5	89.0	90.6	95.5	90.5
GRADE 8 SE	0.9	1.6	1.9	2.7	0.6	1.3	0.8	2.1	2.4	1.7	1.4
AGE 17 P	92.0	89.2	91.2	94.3	92.4	90.8	93.1	87.3	94.4	92.0	92.8
AGE 17 SE	0.9	2.3	1.9	1.0	2.2	1.1	0.9	3.5	1.1	1.1	1.1
GRADE 11 P	93.6	90.6	92.7	96.1	93.9	92.7	94.4	90.7	94.9	94.3	93.8
GRADE 11 SE	0.9	2.3	1.7	0.8	2.4	1.1	0.9	3.7	1.1	1.3	1.1

A. If $8x = 56$, then $x =$

- 6
- 7
- 392
- 448

- I don't know.

B. What is the solution to $y + 1 < 3$?

- $y > 2$
- $y < 2$
- $y > 3$
- $y < 4$

- I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

M-F2F201-3,4

Release #: R061A
R061B

NAEP #: P2F201-3

Content: F. Mathematical sentences

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr11
Age/Modal Grade:	01-33	-
Package-Exercise:		
National P-value:		
R061A	90.1	92.0
R061B	73.5	76.5

Timing: (in seconds)

Part A. Stimulus:	10
Response:	20
Total:	30
Part B. Stimulus:	8
Response:	28
Total:	36
Exercise Total:	66

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	90.1	90.2	89.8	90.6	90.0	89.6	90.6	87.8	89.8	88.8	91.2
AGE 17 SE	0.7	1.0	1.5	1.4	1.1	0.7	0.9	2.0	1.9	1.5	0.7
GRADE 11 P	92.0	92.9	92.2	92.8	90.2	92.1	91.9	90.9	91.6	90.6	92.8
GRADE 11 SE	0.7	1.2	1.6	1.4	1.2	0.9	0.9	1.7	2.1	1.6	0.8
PART B											
AGE 17 P	73.5	69.4	73.6	76.0	74.0	71.8	75.1	69.7	75.0	70.9	74.7
AGE 17 SE	1.2	1.4	3.2	1.8	2.2	1.6	1.4	3.2	4.2	2.7	1.1
GRADE 11 P	76.5	72.0	76.4	79.8	76.5	75.8	77.0	73.2	77.6	72.1	78.1
GRADE 11 SE	1.2	1.8	3.3	1.6	2.4	1.6	1.5	3.5	4.2	3.2	1.2

$$x - 3 = 7$$

What value of x makes the above TRUE?

- ⬭ -4
- ⬭ 0
- ⬭ 4
- ⬬ 10

⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R063

NAEP #: F20002-2

Content: F. Mathematical sentences

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-27
National P-value:		
R063	85.2	81.1

Timing: (in seconds)

Stimulus:	6
Response:	20
Exercise Total:	26

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	81.1	76.5	81.3	82.2	83.8	80.7	81.4	79.0	83.4	83.4	80.2
AGE 13 SE	0.8	2.0	1.5	1.9	1.1	1.1	1.0	1.8	2.0	3.0	1.0
GRADE 8 P	85.2	81.9	85.8	85.6	86.8	85.3	85.1	83.1	85.9	87.4	84.8
GRADE 8 SE	0.6	1.8	1.4	1.2	0.8	0.9	0.8	1.5	1.7	1.5	0.8

What is the value of x when $3x = 15$?

- ● 5
- ○ 12
- ○ 18
- ○ 45

- ○ I don't know.

127

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R064

NAEP #: F20003-2

Content: F. Mathematical sentences

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-16
National P-value:		
R064	87.6	84.8

Timing: (in seconds)

Stimulus:	8
Response:	22
Exercise Total:	30

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	84.8	83.0	82.9	85.8	87.4	82.9	86.7	85.6	85.6	87.9	83.4
AGE 13 SE	0.7	1.4	1.7	1.3	1.4	1.1	0.8	2.0	1.4	1.1	0.9
GRADE 8 P	87.6	85.5	85.5	88.6	90.2	86.2	88.9	88.2	89.2	89.5	86.3
GRADE 8 SE	0.7	1.5	1.6	1.4	1.0	1.0	0.8	2.0	1.4	1.2	1.0

What does x equal in the equation below?

$$3x - 3 = 12$$

- ○ 3
- ○ 4
- ● 5
- ○ 7
- ○ 15

○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R065

NAEP #: F20004-3

Content: F. Mathematical sentences

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr11
Age/Modal Grade:	02-13	-
Package-Exercise:		
National P-value:		
R065	76.3	80.1

Timing: (in seconds)

Stimulus:	6
Response:	30
Exercise Total:	36

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	76.3	71.0	76.1	79.6	77.1	75.9	76.7	69.8	83.4	74.4	76.7
AGE 17 SE	1.2	2.6	2.6	2.3	2.1	1.5	1.4	4.1	2.5	1.6	1.3
GRADE 11 P	80.1	75.9	81.1	82.7	79.5	80.3	80.0	75.1	85.6	78.0	80.4
GRADE 11 SE	1.1	2.4	2.1	1.7	2.5	1.5	1.2	3.8	2.1	2.1	1.2

B. What is the LENGTH of a rectangle whose perimeter is 10 feet and whose width is 2 feet? The formula for the perimeter P of a rectangle of length L and width W is P = 2L + 2W.

- ○ 2 feet
- ● 3 feet
- ○ 6 feet
- ○ 10 feet
- ○ 12 feet

- ○ I don't know.

M-G2F301-3,4

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R077B

NAEP #: G2F301-3

Content: F. Mathematical sentences

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr 11
Age/Modal Grade:	01-28	-
Package-Exercise:		
National P-value:		
R077B	40.9	44.6

Timing: (in seconds)

Stimulus:	19
Response:	30
Exercise Total:	49

NOTE: Part R077A is located under Content G: Geometry.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPI
PART B											
AGE 17 P	40.9	31.9	40.2	42.1	47.1	41.3	40.4	39.2	47.0	41.1	39.2
AGE 17 SE	1.5	2.4	3.4	2.8	2.9	1.6	1.8	3.7	4.2	4.4	1.7
GRADE 11 P	44.6	35.5	43.7	47.1	50.2	47.0	42.6	43.7	50.7	42.2	43.6
GRADE 11 SE	1.4	1.7	3.3	2.6	2.7	1.6	1.7	3.8	4.1	3.9	1.7

A. If t represents any number, what is an expression that means the sum of this number and 10?

- ⬭ t - 10
- ⬬ t + 10
- ⬭ 10t
- ⬭ 10t + 10

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R066A

NAEP #: F3B301-2

Content: F. Mathematical sentences

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-07
National P-value:		
R066A	59.7	55.2

Timing: (in seconds)

Stimulus:	12
Response:	24
Exercise Total:	36

NOTE: Part R066B is located under Content B: Properties of numbers and operations.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	55.2	51.7	50.5	59.4	59.3	54.1	56.3	52.7	62.1	57.8	53.5
AGE 13 SE	1.5	3.2	3.2	3.2	2.6	1.8	2.0	3.0	2.2	5.8	1.6
GRADE 8 P	59.7	56.6	53.9	63.3	64.0	59.7	59.6	57.7	68.0	64.2	56.7
GRADE 8 SE	1.4	3.2	3.5	2.7	2.4	1.5	2.1	2.3	2.4	5.1	1.8

A. The number X stands for the speed of Bruce's model plane. The number Y stands for the speed of Tim's model plane. The mathematical sentence "X > Y" tells us that

- Bruce's plane is faster than Tim's.
- Tim's plane is faster than Bruce's.
- Bruce's plane is going toward Tim's plane.
- Tim's and Bruce's planes are not the same size.

- I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R067A

NAEP #: P3C401-2

Content: F. Mathematical sentences

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

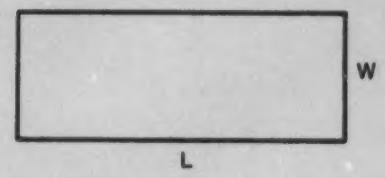
	Gr8	13
Age/Modal Grade:	-	01-24
Package-Exercise:		
National P-value:		
R067A	88.3	83.6

Timing: (in seconds)

Stimulus:	29
Response:	23
Exercise Total:	52

NOTE: Part R067B is located under Content C: Arithmetic computation.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	83.6	77.1	81.6	87.2	87.8	83.2	83.9	78.9	89.1	85.9	82.5
AGE 13 SE	1.1	2.0	2.0	2.1	1.8	1.3	1.2	3.4	2.4	3.0	1.5
GRADE 8 P	88.3	83.7	85.8	91.8	90.7	88.0	88.5	85.6	90.8	91.0	87.3
GRADE 8 SE	0.9	2.1	2.0	1.4	1.6	1.1	1.1	2.2	2.6	1.9	1.4



The rectangular field pictured above has length L and width W. The total distance around the edges of the field is given by the expression

- ⬭ LW
- ⬭ 2LW
- ⬭ L + W
- ⬬ 2L + 2W

- ⬭ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R068

NAEP #: F30001-23

Content: F. Mathematical sentences

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	02-16	02-15	-
National P-value:				
R068	53.3	50.1	69.2	72.0

Timing: (in seconds)

Stimulus:	19	15
Response:	27	23
Exercise Total:	46	38

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	50.1	41.0	50.4	56.6	51.3	52.5	47.6	49.4	50.6	47.9	50.7
AGE 13 SE	1.5	3.1	3.3	2.9	1.8	1.6	1.9	3.2	4.6	4.5	1.8
GRADE 8 P	53.3	44.4	53.9	59.6	53.3	57.4	49.5	55.0	53.3	50.6	53.4
GRADE 8 SE	1.6	3.6	4.1	2.6	2.0	1.9	1.9	2.7	5.5	4.8	1.9
AGE 17 P	69.2	67.8	68.7	71.6	68.1	70.0	68.3	64.4	71.0	65.3	71.3
AGE 17 SE	1.0	2.0	2.1	1.5	2.1	1.5	1.1	2.8	2.0	1.5	1.1
GRADE 11 P	72.0	68.6	73.2	73.5	71.5	73.3	70.7	69.0	74.5	67.8	73.1
GRADE 11 SE	0.9	2.1	1.8	1.4	1.7	1.6	1.0	2.4	1.6	1.1	1.1

Grapes cost g cents per pound and pears cost p cents per pound. What is the total cost of two pounds of grapes and one pound of pears?

- ⬭ (g + p) ¢
- ⬭ (2g + 2p) ¢
- ⬭ (3gp) ¢
- ⬬ (2g + p) ¢

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R069

NAEP #: F30003-3

Content: F. Mathematical sentences

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Poils Admin Mode: Read by respondent

	17 02-07	Gr 11 -
Age/Modal Grade:		
Package-Exercise:		
National P-value:		
R069	81.1	84.5

Timing: (in seconds)

Stimulus:	13
Response:	29
Exercise Total:	42

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	81.1	78.1	78.4	85.8	81.0	79.9	82.3	75.2	83.3	79.0	83.0
AGE 17 SE	0.9	1.9	2.0	1.3	2.0	1.1	1.1	3.1	1.6	2.4	1.0
GRADE 11 P	84.5	81.2	82.4	88.3	85.0	83.8	85.2	78.9	86.3	79.3	87.0
GRADE 11 SE	0.9	1.1	2.3	1.0	2.1	1.0	1.1	2.3	1.6	2.7	0.8

If x is less than 4, then x + 7 MUST be

- ⬭ less than 7
- ⬬ less than 11
- ⬭ greater than 7
- ⬭ greater than 11

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

M-F40001-2,3,4

Release #: R070

NAEP #: F40001-23

Content: F. Mathematical sentences

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

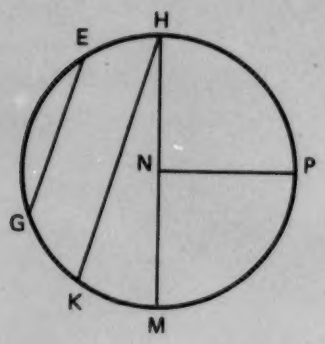
Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	02-25	02-25	-
National P-value:				
R070	62.4	56.7	72.2	75.7

Timing: (in seconds)

Stimulus:	12	11
Response:	44	42
Exercise Total:	56	53

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	56.7	47.8	56.1	61.8	60.4	58.6	54.8	56.7	66.3	52.6	55.2
AGE 13 SE	1.6	3.8	3.4	2.6	2.9	2.0	2.0	3.8	2.4	4.9	1.9
GRADE 8 P	62.4	54.3	62.1	67.2	64.2	64.9	60.0	59.7	72.3	59.6	60.7
GRADE 8 SE	1.5	3.6	2.7	1.7	3.7	1.7	2.1	3.0	2.5	5.2	1.9
AGE 17 P	72.2	65.0	72.4	77.4	71.9	73.9	70.5	67.2	75.4	71.4	73.1
AGE 17 SE	1.2	2.3	3.0	1.7	2.2	1.4	1.2	4.0	2.1	2.3	1.4
GRADE 11 P	75.7	67.3	77.7	80.5	74.2	77.1	74.3	72.2	78.0	74.9	76.1
GRADE 11 SE	1.1	1.7	2.7	1.4	2.7	1.6	1.1	4.2	2.5	2.3	1.3



Which line segment is a DIAMETER?

- ⬭ $\overline{EG}$
- ⬭ $\overline{HK}$
- ⬬ $\overline{HM}$
- ⬭ $\overline{NP}$

- ⬭ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R073

NAEP #: G10001-23

Content: G. Geometry

Behavioral objective: 1. Recognize facts, definitions, symbols

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

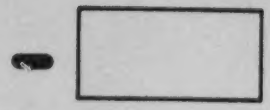
Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	01-17	01-17	-
National P-value:				
R073	67.8	62.8	76.5	78.6

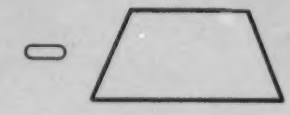
Timing: (in seconds)

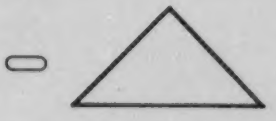
Stimulus:	8	7
Response:	44	41
Exercise Total:	52	48

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	62.8	54.3	62.9	66.5	66.7	64.8	60.8	62.1	64.8	64.1	62.0
AGE 13 SE	1.3	2.8	3.5	2.1	1.6	1.5	1.5	4.4	3.3	4.4	1.4
GRADE 8 P	67.8	59.3	68.8	70.9	70.6	69.6	66.1	68.5	68.3	68.3	67.2
GRADE 8 SE	1.4	2.8	3.7	2.3	1.7	1.7	1.4	4.0	3.5	4.1	1.7
AGE 17 P	76.5	71.4	74.4	79.3	79.7	82.6	70.6	70.1	78.9	73.1	78.3
AGE 17 SE	1.0	1.4	2.7	1.6	1.6	1.2	1.2	3.4	2.3	3.2	1.0
GRADE 11 P	78.6	72.7	76.4	83.0	81.1	86.0	72.1	73.6	80.5	74.0	80.7
GRADE 11 SE	1.0	1.9	2.6	1.3	1.5	1.3	1.3	3.9	2.5	2.9	1.0

Which one of the following figures is a rectangle?







I don't know.

115

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

M-G10002-1,2

Release #: R074

NAEP #: G10002-2

Content: G. Geometry

Behavioral objective: 1. Recognize facts, definitions, symbols

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

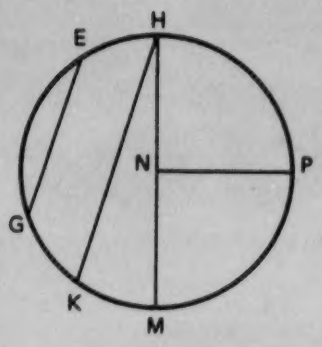
Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-19
National P-value:		
R074	90.4	85.9

Timing: (in seconds)

Stimulus:	6
Response:	20
Exercise Total:	26

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	85.9	79.9	84.6	91.2	87.6	85.6	86.3	83.4	91.6	83.0	85.8
AGE 13 SE	0.9	1.7	2.2	1.7	1.5	1.1	1.1	3.2	1.5	1.6	1.1
GRADE 8 P	90.4	86.7	88.6	94.1	91.3	90.7	90.1	89.1	94.1	89.8	89.7
GRADE 8 SE	0.6	1.4	1.5	0.7	1.3	0.7	1.0	1.9	1.4	1.5	0.8



N is the midpoint of the circle.

Which line segment is a DIAMETER?

- ○ $\overline{EG}$
- ○ $\overline{HK}$
- ● $\overline{HM}$
- ○ $\overline{NP}$

- ○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R075

NAEP #: G10003-23

Content: G. Geometry

Behavioral objective: 1. Recognize facts, definitions, symbols

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

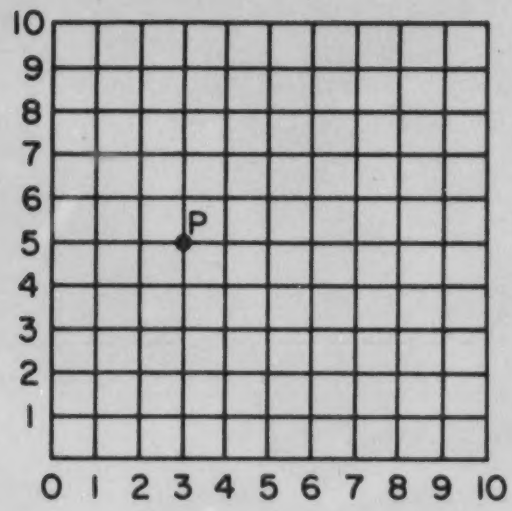
Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	02-06	02-05	-
National P-value:				
R075	63.7	58.7	75.1	77.4

Timing: (in seconds)

Stimulus:	11	10
Response:	40	41
Exercise Total:	51	51

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	58.7	53.3	55.0	64.5	62.0	61.2	56.2	57.5	62.6	57.7	58.3
AGE 13 SE	1.4	4.0	2.7	1.9	1.9	1.6	1.8	3.5	1.9	5.5	1.5
GRADE 8 P	63.7	58.9	59.6	68.9	66.2	67.7	59.9	62.1	65.6	68.6	62.5
GRADE 8 SE	1.4	4.2	3.0	1.9	2.3	1.8	2.1	3.1	2.3	3.7	1.9
AGE 17 P	75.1	70.2	71.1	81.2	76.4	79.2	71.1	68.4	80.0	71.4	76.9
AGE 17 SE	1.2	2.3	3.7	1.6	1.9	1.4	1.5	3.7	3.1	2.9	1.3
GRADE 11 P	77.4	71.1	74.2	82.8	79.4	82.1	73.0	71.3	82.0	75.3	78.3
GRADE 11 SE	1.1	1.7	2.9	1.5	2.0	1.3	1.5	3.2	2.6	3.1	1.2



What are the coordinates of point P?

- (3,5)
- (4,5)
- (3,6)
- (5,3)

- I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R076

NAEP #: G10004-3

Content: G. Geometry

Behavioral objective: 1. Recognize facts, definitions, symbols

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr 11
Age/Modal Grade:	02-12	-
Package-Exercise:		
National P-value:		
R076	58.8	60.3

Timing: (in seconds)

Stimulus:	5
Response:	15
Exercise Total:	20

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	58.8	57.0	60.6	60.5	56.4	59.7	57.9	58.3	59.2	57.8	59.1
AGE 17 SE	1.3	1.9	3.5	2.1	2.6	1.8	1.5	3.7	3.2	2.4	1.7
GRADE 11 P	60.3	58.1	61.4	61.5	59.3	62.0	58.6	61.1	60.6	59.2	60.2
GRADE 11 SE	1.4	2.0	3.9	1.9	3.0	1.8	1.6	3.7	3.6	2.4	1.8

A. If the diameter of a circle is 16 inches in length, what is the length in inches of the circle's radius?

- ⬭ 4 inches
- ⬬ 8 inches
- ⬭ 16 inches
- ⬭ 32 inches

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R077A

NAEP #: G2F301-3

Content: G. Geometry

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr11
Age/Modal Grade:		
Package-Exercise:	01-28	-
National P-value:		
R077A	62.1	64.6

Timing: (in seconds)

Stimulus:	11
Response:	20
Exercise Total:	31

NOTE: Part R077B is located under Content F: Mathematical sentences.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPI
PART A											
AGE 17 P	62.1	53.6	61.0	63.5	68.4	67.3	57.1	62.4	64.6	60.2	61.7
AGE 17 SE	1.3	2.5	2.7	2.7	2.1	1.2	1.7	3.4	2.5	4.3	1.5
GRADE 11 P	64.6	53.9	63.9	66.7	71.4	71.3	58.5	65.7	68.5	59.8	64.3
GRADE 11 SE	1.4	2.7	3.1	2.8	2.1	1.3	1.8	3.9	2.8	4.6	1.6

What is the diameter of a circle with a radius of four inches?

- ⬭ 2 inches
- ⬭ 4 inches
- ⬬ 8 inches
- ⬭ 16 inches

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R078

NAEP #: G20001-2

Content: G. Geometry

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

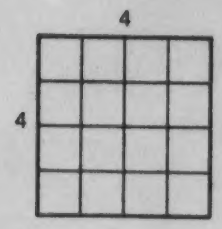
Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-23
National P-value:		
R078	47.5	44.2

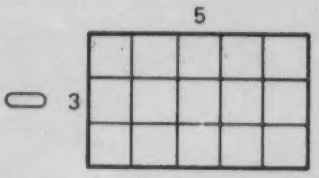
Timing: (in seconds)

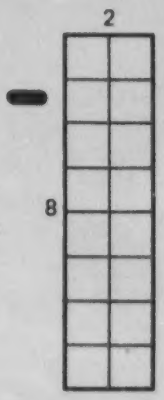
Stimulus:	8
Response:	18
Exercise Total:	26

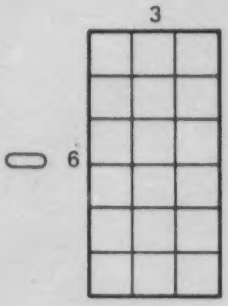
	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	44.2	42.5	44.5	45.4	44.2	44.9	43.5	50.1	44.0	46.1	42.1
AGE 13 SE	1.7	3.3	3.5	3.2	3.3	1.7	2.2	3.6	3.6	3.2	2.1
GRADE 8 P	47.5	47.5	49.7	47.6	45.2	48.7	46.4	51.6	45.4	52.0	46.0
GRADE 8 SE	1.8	2.9	3.7	3.7	3.8	1.9	2.4	4.6	3.8	4.9	2.4



Which one of the figures below has the same area as the figure above?







I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

M-G20002-1.2

Release #: R079

NAEP #: G20002-2

Content: G. Geometry

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

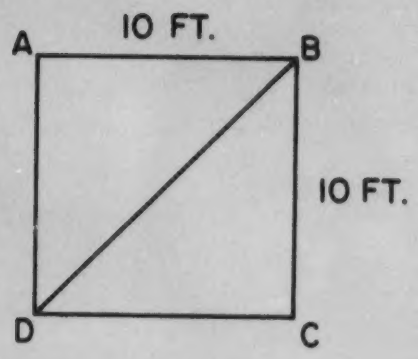
Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-27
National P-value:		
R079	82.6	79.2

Timing: (in seconds)

Stimulus:	8
Response:	22
Exercise Total:	30

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	79.2	74.8	82.1	82.2	76.8	78.1	80.4	77.0	82.4	78.0	79.3
AGE 13 SE	1.2	2.4	1.7	1.9	3.0	1.4	1.4	2.9	1.9	3.1	1.7
GRADE 8 P	82.6	79.5	86.9	85.3	78.2	81.4	83.8	83.8	84.0	83.5	81.7
GRADE 8 SE	1.2	1.7	1.7	1.7	3.2	1.4	1.4	2.7	2.4	1.9	1.8



In the square pictured above, what is the AREA of triangle ABD?

- 10 square feet
- 20 square feet
- 50 square feet
- 100 square feet

- I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R080

NAEP #: G20003-3

Content: G. Geometry

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group

Stem Admin Mode: Read by paced tape recording

Poils Admin Mode: Read by respondent

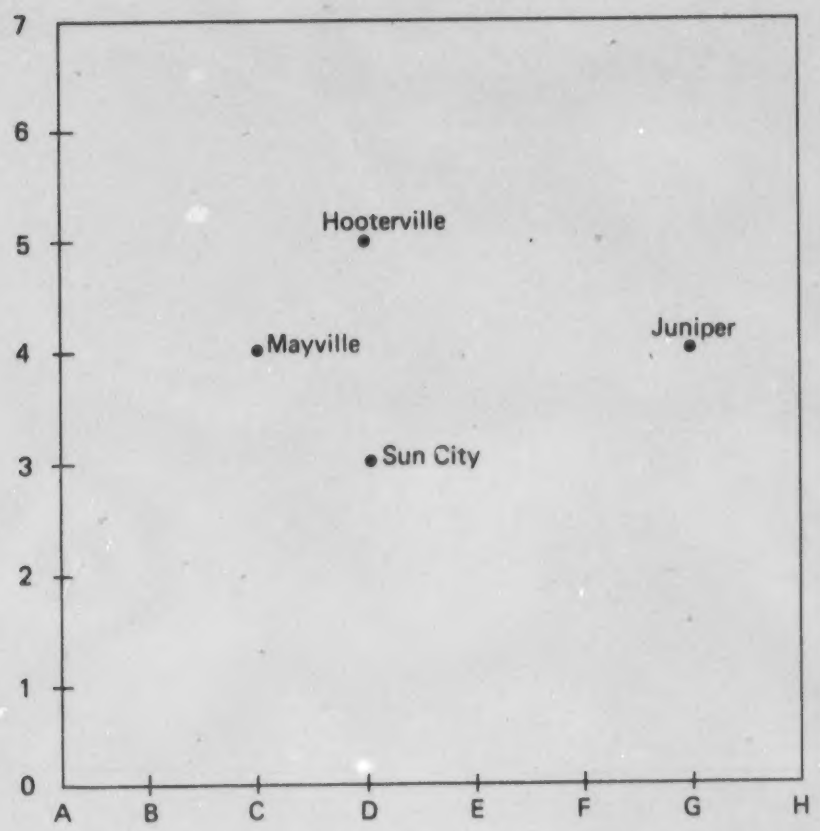
	17	Gr 11
Age/Modal Grade:	01-04	-
Package-Exercise:		
National P-value:		
R080	37.0	38.9

Timing: (in seconds)

Stimulus:	8
Response:	37
Exercise Total:	45

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	37.0	31.0	38.9	38.7	37.8	43.4	30.7	36.0	42.5	36.6	35.4
AGE 17 SE	1.2	1.5	3.4	2.3	2.0	1.6	1.5	3.6	3.7	3.3	1.1
GRADE 11 P	38.9	32.9	39.6	41.4	40.2	46.9	31.8	39.8	44.1	36.0	37.8
GRADE 11 SE	1.3	1.9	3.4	2.1	2.1	1.8	1.5	4.1	3.1	3.3	1.3

The diagram below is part of a map.



A. (D, 3) locates which town?

- Hooterville
- Juniper
- Mayville
- Sun City

- I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

B. Which coordinates locate Juniper?

- ⬭ (C, 5)
- ⬭ (D, 5)
- ⬬ (G, 4)
- ⬭ (G, 3)

- ⬭ I don't know.

160

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R081A
R081B

NAEP #: G30001-2

Content: G. Geometry

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

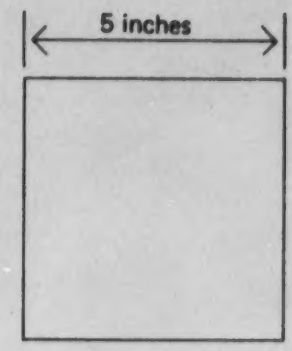
Poils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-33
National P-value:		
R081A	98.4	96.9
R081B	97.2	95.0

Timing: (in seconds)

Part A.	Stimulus:	11
	Response:	17
	Total:	28
Part B.	Stimulus:	17
	Response:	14
	Total:	31
Exercise Total:		59

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	96.9	94.9	96.9	98.0	97.7	96.2	97.6	95.7	97.0	98.1	96.8
AGE 13 SE	0.3	0.7	0.7	0.4	0.6	0.5	0.4	1.0	0.8	0.5	0.5
GRADE 8 P	98.4	97.6	98.0	98.8	99.0	97.7	99.1	97.4	97.9	98.9	98.7
GRADE 8 SE	0.2	0.7	0.5	0.4	0.3	0.4	0.3	0.8	0.6	0.5	0.4
PART B											
AGE 13 P	95.0	92.2	94.4	96.9	96.2	93.5	96.5	93.0	95.8	96.0	95.0
AGE 13 SE	0.5	1.1	1.1	0.6	1.3	0.8	0.5	1.7	1.3	1.3	0.8
GRADE 8 P	97.2	96.1	96.8	98.1	97.5	96.0	98.3	96.0	96.6	98.8	97.2
GRADE 8 SE	0.5	1.0	0.9	0.5	1.2	0.7	0.4	1.1	1.2	0.5	0.8



The total distance around the above square is

- ⬭ 4 + 5 inches
- ⬭ 5 + 5 inches
- ⬬ 4 X 5 inches
- ⬭ 5 X 5 inches

- ⬭ I don't know.

STOP

DO NOT CONTINUE UNTIL TOLD TO DO SO.

-G80002-1,2

Release #: P082

NAEP #: G30002-2

Content: G. Geometry

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

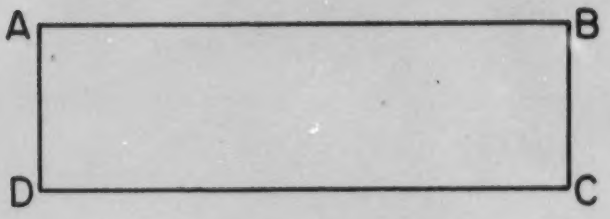
Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-04
National P-value:		
R082	65.8	60.7

Timing: (in seconds)

Stimulus:	8
Response:	18
Exercise Total:	26

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	60.7	53.5	58.1	63.3	67.1	61.2	60.2	58.5	58.8	63.4	61.0
AGE 13 SE	1.6	3.0	1.9	2.9	3.6	2.0	1.7	3.8	2.6	5.0	1.6
GRADE 8 P	65.8	60.4	62.3	67.6	71.3	67.0	64.7	64.5	61.0	68.3	67.0
GRADE 8 SE	1.5	2.9	2.0	2.4	3.1	2.2	1.7	3.8	2.7	3.4	1.6



In the rectangle shown, sides $\overline{AB}$ and $\overline{DC}$ are

- parallel.
- intersecting.
- perpendicular.
- congruent to sides $\overline{AD}$ and $\overline{BC}$.

- I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R084

NAEP #: G30004-3

Content: G. Geometry

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

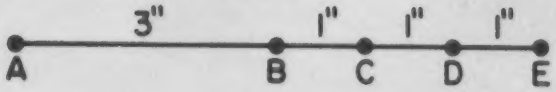
Foils Admin Mode: Read by paced tape recording

	17	Gr 11
Age/Modal Grade:	02-19	-
Package-Exercise:		
National P-value:		
R084	84.2	86.5

Timing: (in seconds)

Stimulus:	14
Response:	23
Exercise Total:	37

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	84.2	78.9	83.4	85.8	87.4	85.0	83.4	79.9	86.2	82.6	85.4
AGE 17 SE	0.8	1.6	2.0	1.3	1.5	1.1	1.1	2.5	1.5	2.6	1.0
GRADE 11 P	86.5	80.4	86.2	88.0	90.2	87.1	86.0	84.1	89.2	84.7	86.9
GRADE 11 SE	0.8	1.6	2.0	0.9	1.5	1.1	1.0	2.3	1.8	2.6	0.9



Point C is the MIDPOINT of which line segment?

- ○ $\overline{AD}$
- ● $\overline{BD}$
- ○ $\overline{BE}$
- ○ $\overline{AE}$

- ○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R085

NAEP #: G30005-3

Content: G. Geometry

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

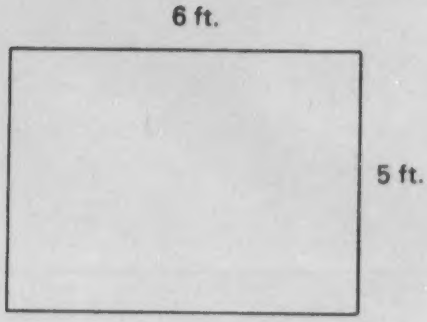
Foils Admin Mode: Read by paced tape recording

	17	Gr 11
Age/Modal Grade:	01-06	-
Package-Exercise:		
National P-value:		
R085	90.6	92.3

Timing: (in seconds)

Stimulus:	13
Response:	18
Exercise Total:	31

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPI
AGE 17 P	90.6	89.2	88.8	93.3	90.6	90.5	90.6	86.7	89.9	90.4	91.9
AGE 17 SE	0.6	1.3	1.6	0.7	1.2	0.7	0.9	1.6	1.9	1.8	0.5
GRADE 11 P	92.3	91.3	91.0	95.4	91.2	92.7	91.9	89.1	91.5	91.1	93.8
GRADE 11 SE	0.6	1.3	1.5	0.7	1.4	0.8	0.8	1.5	2.2	1.5	0.5



How many 1-foot-square tiles would be needed to cover a floor having the dimensions shown in the drawing?

- ⬭ 5 tiles
- ⬭ 6 tiles
- ⬬ 30 tiles
- ⬭ 300 tiles

- ⬭ I don't know.

153

STOP

DO NOT CONTINUE UNTIL TOLD TO DO SO.

M-G-0002-2

Release #: R087

NAEP #: G40002-2

Content: G. Geometry

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Ster Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

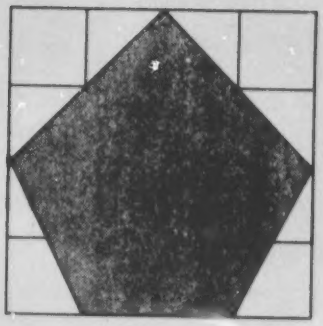
Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-36
National P-value:		
R087	88.1	84.9

Timing: (in seconds)

Stimulus:	10
Response:	21
Exercise Total:	31

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	84.9	79.9	84.1	87.0	87.9	85.5	84.3	84.1	86.3	85.6	84.4
AGE 13 SE	0.8	1.9	1.2	1.7	0.8	1.0	1.1	2.5	1.6	3.1	1.0
GRADE 8 P	88.1	83.8	88.2	89.7	90.1	89.3	87.1	88.9	89.1	89.3	87.2
GRADE 8 SE	0.7	1.6	1.4	1.5	0.6	0.8	1.1	2.0	1.9	2.3	1.0

ESTIMATE the shaded area of this figure in square units.



- 8 square units
- 10 square units
- 12 square units
- 14 square units

- I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R088

NAEP #: G40003-2

Content: G. Geometry

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

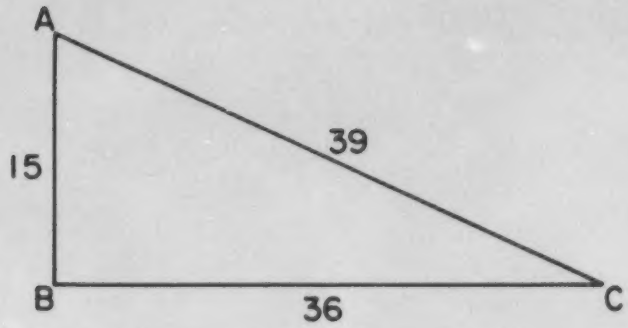
Foils Admin Mode: Read by respondent

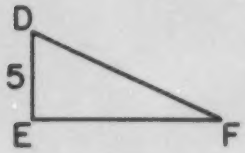
Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-19
National P-value:		
R088	38.0	35.6

Timing: (in seconds)

Stimulus:	7
Response:	40
Exercise Total:	47

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	35.6	31.1	37.0	38.5	35.3	35.9	35.3	36.1	36.6	34.7	35.4
AGE 13 SE	1.2	1.4	2.1	2.0	3.4	1.7	1.2	2.9	2.1	2.6	1.6
GRADE 8 P	38.0	32.8	40.0	41.5	37.3	38.2	37.8	40.8	40.0	35.7	37.3
GRADE 8 SE	1.5	1.3	2.9	2.2	3.7	1.9	1.5	3.2	2.4	2.1	2.2





Triangles ABC and DEF are similar triangles with measurements as shown.

What is the length of side DF in Δ DEF?

- ⬭ 5 units
- ⬭ 12 units
- ⬬ 13 units
- ⬭ 36 units

- ⬭ I don't know.

157

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R089

NAEP #: G40004-3

Content: G. Geometry

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

	17	Gr11
Age/Modal Grade:	01-19	-
Package-Exercise:		
National P-value:		
R089	55.2	58.6

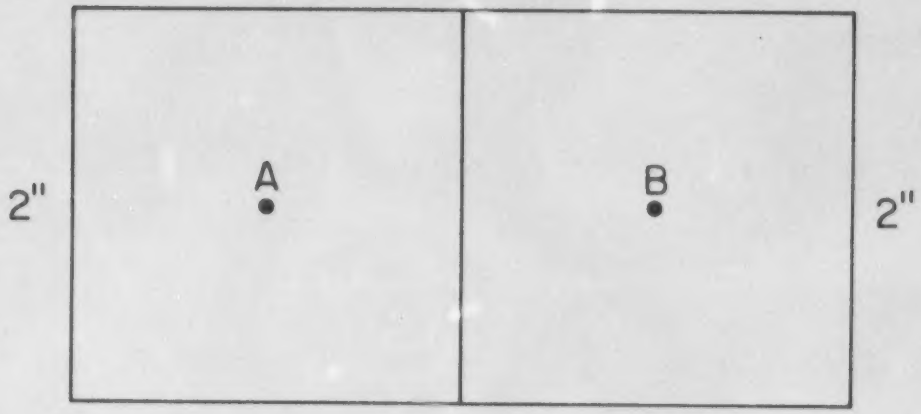
Timing: (in seconds)

Stimulus:	21
Response:	35
Exercise Total:	56

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	55.2	47.0	55.5	55.5	61.0	57.6	52.9	51.8	60.4	51.2	55.5
AGE 17 SE	1.3	2.0	2.6	2.2	3.2	1.5	1.7	3.8	2.9	4.5	1.6
GRADE 11 P	58.6	49.7	60.6	59.5	62.5	62.6	55.0	56.1	65.7	51.6	58.8
GRADE 11 SE	1.5	2.3	2.7	2.2	3.8	1.8	1.8	4.6	3.4	4.7	1.5

Shown below are two squares. A and B are the centers of the squares.

What is the distance in inches from A to B?



- ⬭ 1 inch
- ⬭ $1\frac{1}{2}$ inches
- ▬ 2 inches
- ⬭ 4 inches

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R090

NAEP #: G40005-3

Content: G. Geometry

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17 02-23	Gr 11 -
Age/Modal Grade:		
Package-Exercise:		
National P-value:		
R090	78.5	80.7

Timing: (in seconds)

Stimulus:	11
Response:	30
Exercise Total:	41

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	78.5	72.0	79.8	82.7	77.7	81.8	75.2	72.4	80.8	74.4	81.0
AGE 17 SE	0.9	2.4	1.6	1.8	1.8	0.9	1.3	3.7	1.5	2.6	1.1
GRADE 11 P	80.7	73.9	83.4	85.0	78.3	85.0	76.8	75.1	83.0	75.9	83.1
GRADE 11 SE	0.9	2.0	1.8	1.8	2.0	0.9	1.4	3.8	1.6	2.8	1.2

What is the MEDIAN of the following numbers?

14, 23, 28, 19, 26

- ○ 22
- ● 23
- ○ 28
- ○ 110

○ I don't know.

161

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

Release #: R092

NAEP #: H20002-3

Content: H. Statistics and graphs

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr 11
Age/Modal Grade:	01-35	-
Package-Exercise:		
National P-value:		
R092	18.7	18.7

Timing: (in seconds)

Stimulus:	5
Response:	31
Exercise Total:	36

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	18.7	18.5	19.3	18.9	17.9	20.3	17.1	18.2	17.6	20.2	18.8
AGE 17 SE	0.7	1.5	1.5	1.1	1.6	1.0	1.0	2.0	1.7	2.0	0.9
GRADE 11 P	18.7	19.0	18.9	19.1	17.7	19.8	17.6	19.3	17.1	19.6	18.7
GRADE 11 SE	0.8	1.8	1.7	1.6	1.3	1.1	1.1	2.0	1.6	2.4	1.2

A. To find the average (arithmetic mean) of a set of 5 numbers, it is correct to find the sum of the numbers and then

- ⬭ divide by 2
- ⬬ divide by 5
- ⬭ multiply by 2
- ⬭ multiply by 5

- ⬭ I don't know.

B. A student scored an average of 80 on the first 6 tests of a semester and an average of 74 on the next 3 tests. What was his average (arithmetic mean) for the 9 tests?

- ⬭ 74
- ⬬ 78
- ⬭ 80
- ⬭ 77

- ⬭ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

4-H3H401-3,4

Release #: R093A
R093B

NAEP #: H3H401-3

Content: H. Statistics and graphs

Behavioral objective: 3. Understand mathematical concepts and processes (Part A)
4. Solve mathematical problems (Part B)

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Part A read by paced tape recording
Part B read by respondent

Age/Modal Grade:	17	Gr 11
Package-Exercise:	02-10	-
National P-value:		
R093A	78.4	81.3
R093B	40.9	41.2

Timing: (in seconds)

Part A. Stimulus:	17
Response:	24
Total:	41
Part B. Stimulus:	16
Response:	45
Total:	61
Exercise Total:	102

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	78.4	72.6	74.7	82.3	82.3	77.7	79.0	73.3	80.4	77.7	79.6
AGE 17 SE	0.9	1.7	2.4	1.5	1.4	1.3	1.1	2.7	3.1	1.7	1.1
GRADE 11 P	81.3	74.8	77.5	85.4	85.5	80.8	81.7	76.1	84.1	80.3	82.2
GRADE 11 SE	0.9	1.7	2.2	1.5	1.1	1.3	1.0	2.5	2.3	2.0	1.3
PART B											
AGE 17 P	40.9	38.6	38.5	42.5	43.5	44.5	37.4	38.2	43.8	38.6	41.6
AGE 17 SE	0.9	1.4	1.4	2.1	1.9	1.2	1.2	2.3	2.1	3.6	1.1
GRADE 11 P	41.2	38.7	39.3	43.7	42.0	45.0	37.6	37.6	43.3	39.7	41.9
GRADE 11 SE	1.0	1.8	1.5	2.4	2.1	1.3	1.4	2.6	2.4	3.6	1.3

3, 5, 8, 5, 12, 3, 8

To obtain the average (arithmetic mean) of the set of numbers above, their sum should be divided by

- ○ 4
- ○ 6
- ● 7
- ○ 12
- ○ 44

- ○ I don't know.

STOP

DO NOT CONTINUE
UNTIL TOLD TO DO SO.

4-H30001-2,3,4

Release #: R094

NAEP #: H30001-23

Content: H. Statistics and graphs

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

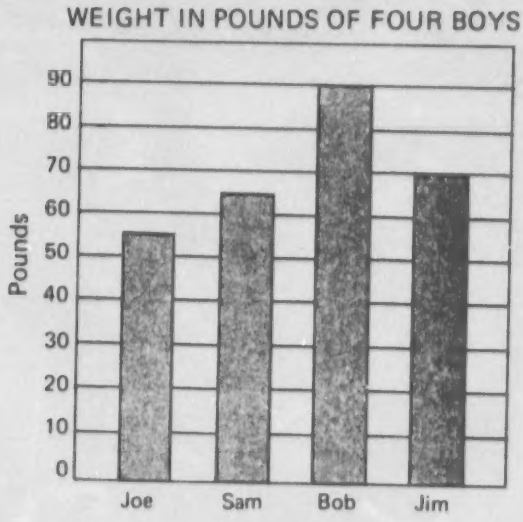
Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13	17	Gr11
Package-Exercise:	-	01-11	01-11	-
National P-value:				
R094	63.0	55.9	68.9	72.5

Timing: (in seconds)

Stimulus:	12	12
Response:	25	18
Exercise Total:	37	30

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	55.9	49.4	51.1	57.6	65.1	54.7	57.1	55.8	60.3	61.6	52.9
AGE 13 SE	1.7	2.4	3.0	3.9	3.6	2.0	1.9	4.4	3.9	5.5	2.1
GRADE 8 P	63.0	57.9	55.9	65.0	71.0	63.9	62.2	61.8	65.3	69.7	60.4
GRADE 8 SE	1.6	2.0	3.7	2.7	3.1	2.0	1.9	4.6	3.8	5.2	1.9
AGE 17 P	68.9	63.3	66.1	71.4	73.6	68.4	69.5	63.5	71.8	65.9	70.3
AGE 17 SE	1.5	3.0	4.1	2.1	2.4	1.5	1.9	4.0	3.1	4.3	1.9
GRADE 11 P	72.5	66.8	70.1	75.3	76.4	73.6	71.4	70.0	75.2	67.6	73.6
GRADE 11 SE	1.5	3.0	4.0	2.2	1.9	1.4	2.0	3.5	3.3	4.2	1.9



A. Which boy weighs the most?

- ⬭ Joe
- ⬭ Sam
- ⬬ Bob
- ⬭ Jim

- ⬭ I don't know.

B. How much does Jim weigh?

- ⬭ 60 pounds
- ⬬ 70 pounds
- ⬭ 80 pounds
- ⬭ 90 pounds

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R095A
R095B

NAEP #: H30002-2

Content: H. Statistics and graphs

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	02-21
National P-value:		
R095A	99.4	99.3
R095B	96.1	95.2

Timing: (in seconds)

Part A.	Stimulus:	6
	Response:	25
	Total:	31
Part B.	Stimulus:	6
	Response:	25
	Total:	31
Exercise Total:		62

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 13 P	99.3	99.1	99.1	99.7	99.1	98.9	99.7	99.3	99.6	98.9	99.2
AGE 13 SE	0.2	0.2	0.2	0.1	0.8	0.3	0.1	0.2	0.3	0.5	0.4
GRADE 8 P	99.4	99.3	99.2	99.6	99.4	99.1	99.6	99.4	99.7	99.1	99.3
GRADE 8 SE	0.2	0.3	0.2	0.2	0.5	0.2	0.2	0.4	0.3	0.5	0.3
PART B											
AGE 13 P	95.2	95.2	94.9	96.0	94.8	95.3	95.1	94.1	95.0	94.8	95.7
AGE 13 SE	0.4	0.7	0.4	0.8	1.1	0.6	0.5	0.7	1.0	1.0	0.6
GRADE 8 P	96.1	97.1	95.9	96.4	95.1	96.2	95.9	94.4	95.5	97.2	96.5
GRADE 8 SE	0.4	0.6	0.6	0.8	1.0	0.6	0.6	0.9	1.2	0.7	0.6

Federal Grants for Education 1966-1970

Year	Expenditures (□ = $500 million)
1966	□□□□□□□□□□
1967	□□□□□□□□□□□□□□
1968	□□□□□□□□□□□□□
1969	□□□□□□□□□□□□□□□
1970	□□□□□□□□□□□□□□□□

According to the chart, for which year did federal grants for education decrease from the prior year?

- ○ 1966
- ○ 1967
- ● 1968
- ○ 1969
- ○ 1970

- ○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R096

NAEP #: H30003-3

Content: H. Statistics and graphs

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

	17	Gr 11
Age/Modal Grade:		
Package-Exercise:	01-36	-
National P-value:		
R096	80.2	83.4

Timing: (in seconds)

Stimulus:	14
Response:	27
Exercise Total:	41

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	80.2	72.7	80.5	82.8	83.2	81.8	78.7	73.0	81.7	79.8	81.9
AGE 17 SE	1.1	2.8	2.5	1.9	1.7	1.3	1.3	3.5	2.7	3.1	1.2
GRADE 11 P	83.4	76.0	84.5	86.5	84.8	86.0	81.1	77.0	86.7	81.0	84.8
GRADE 11 SE	1.1	2.7	2.4	1.4	1.8	1.3	1.3	3.2	2.1	2.9	1.1

WHEAT PRODUCTION FOR FIVE COUNTRIES, 1910–1960
(IN MILLIONS OF BUSHELS)

	1910	1920	1930	1940	1950	1960
COUNTRY A	1,310	1,550	1,810	2,040	2,310	2,550
COUNTRY B	440	480	610	820	980	1,200
COUNTRY C	340	395	440	580	710	970
COUNTRY D	205	230	305	370	390	415
COUNTRY E	60	70	75	140	265	380

How much wheat was grown by Country C in 1920?

- ○ 230 bushels
- ○ 395 bushels
- ○ 230,000,000 bushels
- ● 395,000,000 bushels
- ○ 970,000,000 bushels

- ○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R097

NAEP #: H30004-3

Content: H. Statistics and graphs

Behavioral objective: 3. Understand mathematical concepts and processes

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr 11
Age/Modal Grade:	01-22	-
Package-Exercise:		
National P-value:		
R097	68.2	71.9

Timing: (in seconds)

Stimulus:	6
Response:	34
Exercise Total:	40

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	68.2	58.5	69.3	71.8	70.9	69.1	67.3	62.4	67.6	67.5	70.2
AGE 17 SE	1.1	2.4	2.2	1.7	2.3	1.3	1.5	2.7	2.5	3.5	1.3
GRADE 11 P	71.9	63.0	73.1	76.5	72.7	74.5	69.5	66.6	72.4	70.5	73.5
GRADE 11 SE	1.2	2.6	2.0	1.8	2.7	1.5	1.6	2.8	2.3	3.6	1.4

At a carnival booth you can win a prize by guessing the color of a marble drawn from a jar. If you know that there are 25 red, 25 green, 25 yellow, and 25 blue marbles in the jar, what are your chances of winning a prize on your first try?

- 1 out of 4
- 1 out of 25
- 4 out of 25
- 25 out of 75

- I don't know.

188

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R098

NAEP #: H40001-2

Content: H. Statistics and graphs

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by paced tape recording

Age/Modal Grade:	Gr8	13
Package-Exercise:	-	01-12
National P-value:		
R098	56.3	50.9

Timing: (in seconds)

Stimulus:	28
Response:	28
Exercise Total:	56

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 13 P	50.9	44.1	47.7	53.3	57.8	53.8	48.0	48.9	58.8	50.2	49.3
AGE 13 SE	1.3	2.9	2.1	1.7	3.2	1.5	1.6	3.9	3.3	5.0	1.7
GRADE 8 P	56.3	49.3	55.2	58.5	60.8	59.2	53.8	54.2	63.2	54.7	55.3
GRADE 8 SE	1.4	3.8	2.6	1.7	2.8	1.7	1.7	4.1	3.4	4.7	2.2

The probability is $\frac{1}{4}$ that patients with a particular disease will be cured by a certain medicine. Approximately how many cures would you expect in a random sample of 100 patients having this disease who are treated with this medicine?

- ⬭ 4
- ⬬ 25
- ⬭ 40
- ⬭ 75

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

M-H40002-3,4

Release #: R099

NAEP #: H40002-3

Content: H. Statistics and graphs

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr11
Age/Modal Grade:	02-33	-
Package-Exercise:		
National P-value:		
R099	86.1	88.3

Timing: (in seconds)

Stimulus:	18
Response:	24
Exercise Total:	42

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	86.1	80.8	86.3	88.7	87.0	85.9	86.2	82.8	89.4	83.6	86.8
AGE 17 SE	0.9	2.5	1.7	1.5	1.8	1.1	1.1	2.4	1.2	1.8	1.2
GRADE 11 P	88.3	82.2	89.2	91.5	88.2	88.4	88.1	86.1	91.5	86.2	88.4
GRADE 11 SE	0.8	2.6	1.5	1.2	1.5	1.0	1.0	2.3	1.1	1.8	1.3

Mr. Smith's bank book looks like this:

November 1	Balance (money in bank)	$ 36.23
November 16	Deposit (wages)	$100.00
November 25	Withdrawal (to buy new coat)	$ 28.00
December 1	Balance (money in bank)	$?

What is his December 1 balance?

- ○ $ 35.77
- ○ $ 91.77
- ● $108.23
- ○ $164.23

- ○ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

M-I20001-3,4

Release #: R102

NAEP #: I20001-3

Content: I. Personal and consumer math

Behavioral objective: 2. Perform mathematical manipulations

Exer & Scor Type:	Multiple choice Mechanical-optical scanner	
Admin Mode & Instr Meth:	Group Read by paced tape recording	
Stem Admin Mode:	Read by paced tape recording	
Foils Admin Mode:	Read by respondent	
Age/Modal Grade:	17	Gr 11
Package-Exercise:	01-20	-
National P-value:		
R102	86.2	89.0
Timing: (in seconds)		
Stimulus:	30	
Response:	30	
Exercise Total:	60	

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
AGE 17 P	86.2	82.7	86.8	87.2	87.1	84.7	87.6	79.6	86.2	86.9	87.8
AGE 17 SE	0.7	1.6	1.4	1.2	1.7	1.2	0.8	3.3	1.8	2.5	0.7
GRADE 11 P	89.0	86.6	90.4	89.9	88.7	88.2	89.7	83.3	90.7	88.4	90.2
GRADE 11 SE	0.7	1.5	1.2	0.8	1.7	1.2	0.8	3.2	1.2	2.3	0.6

A. A new automobile can be bought for cash for $2,850 or on credit with a down payment of $400 and $80 a month for three years. How much MORE would a person pay by buying on credit rather than by buying the car for cash?

- ⬭ $ 330
- ⬬ $ 430
- ⬭ $2880
- ⬭ $3280

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R103A

NAEP #: I4C401-3

Content: I. Personal and consumer math

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Read by respondent

	17	Gr 11
Age/Modal Grade:	02-34	-
Package-Exercise:		
National P-value:		
R103A	62.4	65.6

Timing: (in seconds)

Stimulus:	21
Response:	47
Exercise Total:	68

NOTE: Part R103B is located under Content C: Arithmetic computation.

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	62.4	58.4	62.4	65.9	61.5	64.0	60.7	56.8	62.9	59.2	65.0
AGE 17 SE	1.2	3.1	2.1	2.4	2.0	1.4	1.4	3.6	2.1	2.4	1.5
GRADE 11 P	65.6	61.8	66.4	70.0	62.6	68.4	63.1	62.8	65.7	60.6	67.9
GRADE 11 SE	1.3	3.0	2.5	2.4	2.0	1.7	1.6	3.2	2.1	2.8	1.9

A. Manuel can buy a set of tires for his car for $127.00 cash. He can also get them on time payments for $11.00 down and $12.00 per month for a year. How much can he save by paying cash?

- ⬭ Nothing, the price is the same
- ⬭ $17.00
- ▬ $28.00
- ⬭ $38.00

- ⬭ I don't know.

B. A salesman was paid a commission of 15% for a sale of $3000. How much money did he earn?

- ⬭ $ 20
- ⬭ $ 45
- ⬭ $200
- ▬ $450

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R104A
R104B

NAEP #: I4I401-3

Content: I. Personal and consumer math

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Part A read by paced tape recording
Part B read by respondent

	17	Gr 11
Age/Modal Grade:	01-18	-
Package-Exercise:		
National P-value:		
R104A	65.9	69.2
R104B	51.5	52.8

Timing: (in seconds)

Part A. Stimulus:	24
Response:	31
Total:	55
Part B. Stimulus:	11
Response:	40
Total:	51
Exercise Total:	106

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	65.9	63.2	66.6	65.5	67.7	66.1	65.7	60.7	67.4	65.6	66.9
AGE 17 SE	1.1	2.2	2.4	2.5	1.8	1.3	1.5	3.6	2.2	2.6	1.6
GRADE 11 P	69.2	65.4	70.6	69.5	70.6	71.3	67.4	64.8	72.3	66.5	70.2
GRADE 11 SE	1.2	2.9	2.3	2.3	2.1	1.4	1.6	3.9	2.1	2.8	1.7
PART B											
AGE 17 P	51.5	45.2	51.5	53.4	54.6	53.4	49.8	49.0	55.2	46.9	52.3
AGE 17 SE	1.3	3.1	3.0	2.2	2.3	1.5	1.6	2.8	3.2	3.0	1.6
GRADE 11 P	52.8	45.6	52.9	56.3	54.6	57.2	48.9	51.4	56.3	45.9	53.9
GRADE 11 SE	1.4	3.6	2.9	2.3	2.7	1.5	1.8	2.9	3.5	3.3	1.8

A. If a city's property tax is $29.87 per $1,000 of assessed value, the tax on property assessed at $14,900 would be CLOSEST to which amount?

- ⬭ $400
- ⬭ $420
- ▬ $450
- ⬭ $470

- ⬭ I don't know.

B. A real estate agent sold a house for $12,000. If his commission is 5% of the selling price, how much was the commission?

- ⬭ $6
- ⬭ $60
- ▬ $600
- ⬭ $4,000

- ⬭ I don't know.

STOP DO NOT CONTINUE UNTIL TOLD TO DO SO.

Release #: R105A
R105B

NAEP #: I4I402-3

Content: I. Personal and consumer math

Behavioral objective: 4. Solve mathematical problems

Exer & Scor Type: Multiple choice
Mechanical-optical scanner

Admin Mode & Instr Meth: Group
Read by paced tape recording

Stem Admin Mode: Read by paced tape recording

Foils Admin Mode: Part A read by paced tape recording
Part B read by respondent

Age/Modal Grade:	17 02-09	Gr11 -
Package-Exercise:		
National P-value:		
R105A	39.3	39.5
R105B	71.7	72.4

Timing: (in seconds)

Part A.	Stimulus:	22
	Response:	40
	Total:	62
Part B.	Stimulus:	13
	Response:	34
	Total:	47
Exercise Total:		109

	NAT	REGION				SEX		COMMUNITY SIZE (DOC)			
	NAT	SE	WEST	CENT	NE	MALE	FEM	BC	FABC	MCTY	SMPL
PART A											
AGE 17 P	39.3	33.6	39.7	41.2	41.2	43.9	34.9	41.2	45.6	35.0	37.7
AGE 17 SE	1.4	3.4	3.6	2.5	1.6	1.8	1.4	4.6	3.9	2.6	1.4
GRADE 11 P	39.5	33.7	40.4	41.7	40.7	45.4	34.1	39.7	46.1	35.6	38.4
GRADE 11 SE	1.5	2.9	3.7	2.6	2.2	2.0	1.5	4.5	4.4	2.6	1.6
PART B											
AGE 17 P	71.7	68.2	71.9	74.7	70.9	74.4	69.0	68.0	75.8	69.5	72.2
AGE 17 SE	1.0	2.6	1.9	1.5	2.5	1.4	1.2	3.1	2.0	2.4	1.3
GRADE 11 P	72.4	68.4	73.3	74.6	72.1	75.1	69.9	68.3	76.8	68.6	73.3
GRADE 11 SE	1.1	2.7	2.2	1.9	1.9	1.6	1.3	3.0	2.1	2.4	1.4